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ABSTRACT

This selective bibliography is one of nine documents compiled to provide titles and descriptions of useful and informative reading documents which were indexed into the ERIC system from 1966 to 1974. The 280 entries in this section of the bibliography concern the reading process and are arranged alphabetically by author in one of the following fourteen subcategories: cognitive processes and sensory integration; perceptual development and speed reading; word recognition; phoneme-grapheme analysis; syntax; associative learning; critical reading; comprehension; listening; language development; nonstandard dialects; affective behavior; sex differences; and theory. Author and subject indexes conclude the document. (JM)

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A Selective Bibliography of ERIC Abstracts for the Teacher of Reading, 1966-1974; I. Reading Process

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Introduction

One of the primary goals of the National Institute of Education and the Educational Resources Information Center (ERIC) is to transform the information found in the ERIC system into a format that will be useful to the classroom teacher, the administrator, and the curriculum developer. Such is the goal of this bibliography, which brings together titles and descriptions (abstracts) of useful and informative reading documents that were indexed into the ERIC system during the years from 1966 to 1974.

Using the descriptors Reading, Reading Research, and Reading Instruction, a computer search was made of the ERIC data base. Of the 5000 documents that were obtained through the search, 3000 entries were in the system at Level I or Level II, that is, were available on microfiche or in hard copy, a photographically reproduced, paper booklet. Each of these 3000 entries was considered for inclusion in the bibliography.

To aid in the selection of items for the bibliography, nine criteria were developed:

1. The Study contributes to the profession through the use of constructive research procedures.
2. The information adds to current understanding of the reading process.
3. The document helps the teacher with realistic suggestions for classroom practices.
4. The study indicates trends for the teaching of reading; organizational patterns; methodology; and/or materials.
5. The document helps teachers to apply theories of learning to the teaching of reading.
6. The study clarifies the relationship of reading to other disciplines, such as linguistics and psychology.

7. The study leads to understanding special problem areas in teaching reading.
8. The document helps teachers to build curriculum or gives guidance in planning lessons.
9. The document will help readers to understand the state of the profession or the professionalism in the teaching of reading.

The criteria were reviewed and refined by Robert Emans, University of Maryland; Robert Bennett, San Diego (California) School District; Richard Hodges, University of Chicago; William Powell, University of Florida at Gainesville; Charles Neff, Xavier University; and Joanne Olsen, University of Houston.

In order to be included in the bibliography, a document had to meet at least four of the nine criteria. Of the 3000 documents evaluated, 1596 were able to satisfy the requirements and were included. This section of the bibliography, Reading Process, has 280 entries. Other categories are:

1. Methods in Teaching Reading (190 entries)
2. Reading Readiness (131 entries)
3. Reading Difficulties (115 entries)
4. Reading Materials (245 entries)
5. Adult Education (201 entries)
6. Test and Evaluation (231 entries)
7. Reading in the Content Area (94 entries)
8. Teacher Education (109 entries)

Subcategories were organized within each major category, and items were put into alphabetical order by author. Entries were then given numbers consecutive throughout the nine separate sections, and an author index and a subject index were prepared for each section. The subject indexes were prepared using the five major descriptors which were assigned to each document when it was indexed into the ERIC system. In both the

author and the subject indexes, each item is identified by its ED (ERIC Document) number and by the consecutive number assigned to it in the bibliography.

Two other bibliographies are available which reading educators may find useful. They differ from this bibliography in that they are comprehensive rather than selective. Both of these publications include all the reading documents entered into the ERIC system by ERIC/RCS and by ERIC/CRIER. They are Recent Research in Reading: A Bibliography 1966-1969 and Reading: An ERIC Bibliography 1970-1972; both were published by Macmillan Information.

READING PROCESS

I. Cognitive Process
   Sensory Integration

II. Perceptual Development
   Speed Reading

III. Word Recognition

IV. Phoneme-Grapheme

V. Syntax

VI. Associative Learning

VII. Critical Reading

VIII. Comprehension

IX. Listening

X. Language Development

XI. Nonstandard Dialect

XII. Affective Behavior

XIII. Sex Differences

XIV. Theory

Cognitive Process

1. Athey, Irene. Developmental Processes and Reading Processes: Invalid Inferences from the Former to the Latter. Paper presented at the National Reading Conference, Tampa, December 1971, 19p. [ED 059 844. HC not available from EDRS. Available from National Reading Conference]

   The author reviews findings in perception, cognition, psycholinguistics, and motivation, concentrating on the development of these processes in the nonreading and beginning reading child rather than in the mature processes of a skilled reader. She offers the following conclusions: (1) research in perception suggests that there are developmental aspects which affect abilities at different ages; (2) attempts to trace the development of cognition have resulted in conflicting conclusions based on equally conflicting theories; (3) development of language abilities, once thought to occur quite early, now appears to extend toward adolescence, and when related to reading must be evaluated in light of social, political, and dialectical contexts; and (4) attempts to describe theories of motivation must also take social and cultural factors into account. In summary, the author argues that educators must consider the findings in other fields but must scrutinize them carefully before adapting them to reading. A bibliography is included.

2. Bickley, A. C. Categorization Constraints on Beginning Readers. Paper presented at the National Reading Conference, Atlanta, December 4-6, 1969, 14p. [ED 041 694. Document not available from EDRS. Available in Nineteenth Yearbook of the National Reading Conference]

   Words in categories of high and low "flash-card learnability" and semantic congruence (logical congruence and associative congruence) were tested. Other independent variables were sex and intelligence (Peabody Picture Vocabulary Test). The dependent variable was time in tenths of seconds, from the first presentation of a word list until the subject gave the first perfect set of responses to the serial stimuli. Subjects were 40 male and 40 female six year olds, beginning grade 1, randomly selected from a total school population of 123. Random assignment to treatment was made. Data were analyzed by a four-dimensional analysis of variance. Significant differences (.05) between lists organized by logical congruence and by the typical associates given by children were found. Since the young learner finds it more difficult to give a paradigmatic response, the implications for reading instruction for young children were discussed. It was concluded that differential performance to differing categories is a reflection of organismic internal organizational and processing differentials. A child learns sequential associative categorizing prior to logical semantic connections. Tables and references are included.

3. Christopherson, Steven L. The Effect of Knowledge of Discourse Structures on Reading Recall. Paper presented at the Annual

Meeting of the American Educational Research Association, Chicago, April 15-19, 1974, 10p. [ED 090 531]

The focus of this study was on the effects which knowledge of semantic components may have on recall. It was hypothesized that after an introduction to discourse structures, immediate recall would improve and recall which was delayed for one week would improve. Thirty-four unpaid volunteers between the ages of 16 and 26 were recruited and randomly assigned to an experimental and a control group. Twenty-three of the subjects were high school advanced placement students. Seven semantic categories were taught to each subject in the experimental group: agent, patient, instrument, location, benetive, factitive, and essive. Subjects then read passages of about 330 words. The results indicated that immediate recall scored for idea units was insignificantly better for the experimental group when compared with the untutored control group. One week delayed recall significantly favored the experimental group. The results were considered important for psycholinguistic theory and for education.

4. Cognitive and Affective Characteristics of Exceptional Children. Papers presented at the Annual International Convention of the Council for Exceptional Children, Chicago, April 19-25, 1970, 60p. [ED 039 379]

The Language Acquisition Device, or LAD, is related to reading and intellectual development in the first of five papers on cognitive and affective characteristics of exceptional children. A discussion of the intellectual processes involved in learning focuses on the developmental stages of Piaget. A report on a task force to discuss terminology related to minimal brain dysfunction is presented. Also considered are the implications of research for the education of the trainable mentally handicapped and the development of a positive self-concept in the retarded.

5. Downing, John A. Children's Thoughts and Language in Learning to Read. Paper presented at the Annual Meeting of the National Council of Teachers of English, Las Vegas, November 22-27, 1971, 13p. [ED 056 828]

Four paradoxes appear in research on learning to read: (1) the ability to name letters is a good predictor of reading readiness, yet letter-naming training does not help children learn how to read; (2) visual discrimination is often better in poor readers than in good readers; (3) learning to read two languages is easier than learning to read one; and (4) it is easier to learn to read in two alphabets than it is in one. These findings, which contradict common sense, may be easily explained by examining the thought processes at work during the reading process. Too often reading research looks at external aspects of reading, such as eye movement, perception, and letter-naming, and neglects the central processes of concept formation and reasoning. Examining the first paradox, for example, early experience with letter-naming, often indicates an

environment in which the parents read a lot and talk about reading, which gives support to the school's effort to teach reading. Learning letter-names for a child from a less stimulating environment, however, is often the rote learning of meaningless symbols. Hence letter-naming can indicate reading readiness but is not a useful method of teaching reading. The other three paradoxes can similarly be explained by looking at the cognitive processes involved. The implication then is that the learning and thought processes of the child must be the starting point for any teaching activity. References are included.

6. Downing, John. Specific Cognitive Factors in the Reading Process. Paper presented at the National Reading Conference, St. Petersburg, December 3-5, 1970, 13p. [ED 046 639. HC not available from EDRS. Available in Twentieth Yearbook of the National Reading Conference.

   Based on the idea that mastery of reading is a complex problem to be solved by a child, the author discusses the learning-to-read process as a series of discoveries of solutions to subproblems, all of which are then ordered into a total system. As a child's attempted solutions approximate more closely the reality of each aspect of the reading process, as he gains in understanding of the nature of the task, he achieves more cognitive clarity. This cognitive clarity is correlated highly with reading success, while its opposite, cognitive confusion, can be regarded as a symptom of reading failure. Pertinent evidence from studies of reading disability and from studies which relate reading achievement to various intellectual abilities are cited in support of the author's theory. He concludes that understanding of differences between spoken and written forms, knowledge of letter-sound correspondences, and ability to categorize words contribute to cognitive clarity, while auditory and visual discrimination and letter-name knowledge do not. A summary list of findings from studies which explore factors related to the proposed cognitive clarity theory of reading concludes the presentation. References are included.

7. Geyer, John J. Implications of Information Processing to Reading Research. Paper presented at the meeting of the American Educational Research Association, Chicago, April 1972, 13p. [ED 062 089]

   Information processing is discussed as a rapid coalescing of basic disciplines around a point of view with relevance to the reading processes and ultimately to learning to read. Two types of reading models under information processing are analyzed: the O-type model, which delineates the organismic systems operating between input and output at a psychological level, and the S-type model, which concerns the transformations of the information itself from the printed pattern into meaningful language of a form appropriate to the intended output. These models are conceived of not as contributing directly to reading instruction, but as serving as a seminal focus for further research in a variety of disciplines. Some of these processes unfamiliar to reading teachers should add genuinely new dimensions to the teaching of reading, since they provide a more

precise basis for diagnosis and remediation and could serve a taxonomic function for the structuring of individualized reading programs. The author feels that it is the researcher's job to find out more about these processes so that research could move from the laboratory into the classroom. References are included.

8. Geyer, John J. Modeling the Reading Process: Promise and Problems. Paper presented at the National Reading Conference, Tampa, December 1971, 14p. [ED 059 849. HC not available from EDRS. Available from National Reading Conference, Inc.]

   The problems of modeling a process as complex as reading are discussed, including such factors as the lack of agreement surrounding definitions of modeling, varying levels of rigor within and between models, the disjunctive categories within which models fall, and the difficulty of synthesis across fields which employ very different technical language. The author emphasizes the natural tendency for information processing models to cut across traditional disciplines and suggests a conceptual strategy whereby the many models contained in the Davis Report can be approached for synthesis.

9. Heatherly, Anna L. Attainment of Piagetian Conservation Tasks in Relation to the Ability to Form Hypotheses as to the Probable Content of Story Material among First and Second Grade Children. Ed.D. Dissertation, University of Virginia, 1972, 159p. [ED 065 855. Document not available from EDRS. Available from University Microfilms (Order No. 72-22, 634)]

   The purpose of this study was to investigate the realtionship between performance on Piagetian conservation tasks and the ability to form hypotheses as to the probable content of story material among first and second grade children. Cognitive operations selected for comparison were operations concerning conservation of mass, conservation of quantity of liquid, conservation of number, and a class inclusion task. The findings indicated that conservation attainment is related to chronological age, mental age, hypotheses testing rating score and Gates MacGinitie vocabulary and comprehension scores, and socioeconomic status. Partial correlations indicated that conservation attainment is a function of mental age. The findings also indicated that hypotheses testing status and conservation attainment are related to scores on a standardized reading test and that this relationship holds even when the effects of chronological age, mental age, and socioeconomic status are partialed out.

10. Levin, Joel R. Some Thoughts about Cognitive Strategies and Reading Comprehension. Theoretical Paper No. 30. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1971, 15p. [ED 064 692]

    Psychological experiments investigating imposed and induced cognitive strategies are reviewed and related to operations in reading comprehension. It has been suggested that comprehension differences

between good and poor readers may arise from the way in which they habitually organize intra- and inter-sentence elements during input. Subject-generated visual imagery is singled out as a particularly effective organizational strategy. Implications of this research are considered in the context of aptitude by treatment interactions and individual differences.

11. Lundsteen, Sara W.; Fruchter, Benjamin. Relationship of Thought Processes to Language Responses in Disadvantaged Children. Final Report. Austin: University of Texas, 1969, 49p. [ED 037 462]

The objectives of this study were to determine the strength and importance of the relationships among features of oral and written language proficiency and their accompanying thought processes, and to dimensionalize variables that may be manipulated to assist development of disadvantaged children. Test scores from measures of language/thinking proficiency, such as problem solving, listening, abstract quality of thinking, and reading achievement (15 variables in all), were collected from 312 fifth-grade students randomly placed in experimental and control groups, who had completed all pretests and posttests, and from 153 sixth-grade students who had completed retention tests. Experimental-group children had received instruction in problem solving, listening, and abstract thinking. The major method of statistical analysis consisted of principal-axis factor analysis of the 15 variables, with varimax and oblique rotation. Results showed that three factors could be extracted and interpreted--reading achievement, verbal abstract thinking, and problem solving. An implication of the study was that socioeconomic status, possibly more than IQ, is a crucial influence on reading performance.

12. McConkie, George. The Study of Organization and Recall with Prose. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, February 26-March 1, 1973, 12p. [ED 078 399]

This paper discusses some of the studies conducted in the area of learning from prose. The first study dealt with pooling independent sentences into groups of related sentences and preparing passages by stringing these sentences together. College students then read one of the passages three times, producing a written recall after each reading. The main result was that, with blocked presentation, clustering of sentences from related sentence groups rose over trials, but with mixed presentation it did not. The second study attempted to apply the sorting technique developed by Mandler. An analysis of all the data revealed no tendency for subjects to cluster items in recall with other items sorted into the same pile. The third study was an attempt to manipulate the structure of information in a passage in a simple manner. An examination of the results showed that there was no significant difference between groups. The final study identified idea units and then sought to determine the hierarchical set of relationships which the passage established among these. The general conclusion from this study

was that the structure obtained from the analysis of the passage seemed to be related to cognitive structure subjects established while reading the passage.

13. MacGinitie, Walter H. Children's Metalinguistic Concepts and Reading. Paper presented at the Annual Meeting of the International Reading Association, Denver, May 1-4, 1973, 19p. [ED 078 391]

Assuming that although the pre-operational child generates syntactic utterances, it cannot be inferred that he can comprehend the process of analyzing or synthesizing words or utterances as specimens, it would follow that trying to teach pre-operational children to read by decomposing words or sentences, on the assumption that words and the relations between words can then by synthesized, may be analogous to trying to train Piagetian operations. To determine what reasoning tasks we ask the child to perform when we ask him to analyze printed words so that he can pronounce them, the instructional setps in several primers and first readers of several basal reader series were examined. This was approached in two ways: (1) to translate the logical steps that are required of the child by each lesson into descriptive, abstract notations; and (2) to develop an analogue of the set of grapheme-phoneme correspondences for many of the phonics lessons in the teachers' manuals. Results from using the analogues indicated that children have much more difficulty with rules that involve changes from a regular pattern, children were often able to do the analogue lessons more easily than the parallel phonics lessons, and the same basic concepts are taught using different places within the same manual.

14. Marsh, George. Conceptual Skills in Beginning Reading. Inglewood, Calif.: Southwest Regional Educational Laboratory, 1969, 55p. [ED 035 518]

A task analysis of the conceptual skills prerequisite to learning to read by a phonics-based method is made in an attempt to distinguish these skills from reading's component skills. The model for task analysis presented by Gagne, in which a cumulative learning of prerequisite conceptual skills is assumed, is used. The analysis deals primarily with Gibson's second and third stages of the reading process: learning to discriminate graphemes and phonemes and learning the rules of grapheme-phoneme correspondence. After the skill descriptions are made, the skills are classified according to type of concept skill (i.e., concepts, rules, and strategies) which are prerequisite to learning the component skills of knowing and using the rules of correspondence. The prerequisite conceptual skills which are task analyzed are (1) multiple discrimination and association, (2) concept of class, (3) information reduction, (4) sequential rules, and (5) logical rules. Related issues which are discussed are (1) inductive and deductive techniques and (2) organized access and use of memory. Prospects for further research are discussed, and a 130-item bibliography is included.

15. Mueller, Ruth G. Intellectual Factors Related to the Reading Process: Cognitive Skills. Paper presented at the Annual Meeting of the International Reading Association, Denver, May 1-4, 1973, 16p. [ED 078 375]

This paper discusses two aspects of reading as a cognitive process as they relate to instruction based on the intellectual operation performed during the act of reading. The first consideration is an assumption that comprehension skills are based on a set of underlying cognitive tasks or operations which can be developed through instruction. The second assumption is that instructional strategies for these cognitive tasks which are presented in an organized and systematic manner can facilitate children's competence in performing the tasks and, therefore, in performing the skills of reading comprehension. Two cognitive tasks, concept formation and interpretation of data, are used in this paper as the basis for planning critical reading instruction at the elementary school level. Two structured lessons and discussions provide examples for teaching specific cognitive skill objectives and for allowing pupils to reach their own decisions, building cognitive skills through use.

16. Mulford, Jeremy, ed. Reading. English in Education 5 (Winter 1971): 108p. [ED 063 599. Document not available from EDRS. Available from NCTE (Stock No. 22772, $2.75 nonmembers, $2.50 members)]

A collection of articles reflecting the underlying concern of British contributors with continuity--conceiving reading and learning as a whole throughout the school years--comprises this special issue of "English in Education." Specific topics treated are: "What Children Learn in Learning to Read" by R. Morris; "Reading without Primers" by W. Fawcus; "Help with Reading" by E. Grugeon; "Listening and Reading" by M. Doolan, J. Griffiths, and J. Kerry; "The Role of Fantasy" by J. Britton; "Uses of Narrative" by D. Cate; "Poetry in the Junior School" by T. Phillips; "Group Talk and Literary Response" by D. Barnes, P. Churley, and C. Thompson; "Asking Questions" by P. Blackie; and "Reading across the Curriculum: Suggestions for a Study Group" by C. Fox.

17. Norman, Donald A. Cognitive Organization and Learning. La Jolla, Calif.: University of California, Center for Human Information Processing, 1973, 43p. [ED 083 543]

When one learns complex material, the important thing appears to be the ability to understand the material. Once understanding occurs, learning and remembering follow automatically. The conventional psychological literature says little about the processes involved in the learning of complex material--material that takes weeks, months, and even years to be learned. Yet, most adult learning is of this form. This paper examines some of the issues that are involved in this type of learning, issues such as the nature of understanding, the types of hypoth ses that subjects bring to bear on the learning process, and the types of processes that need to be studied in order to understand the psychology of learning.

18. Page, William D. Reading: Product and Process in Language Use. Paper presented at the Dakota State College Reading Conference, Madison, S.D., April 20, 1972, 11p. [ED 078 381]

Reading has been viewed both as a product and as a process. The product view of reading is generally associated with static information produced by testing techniques. A major difficulty with the product view seems to be that reading is treated as though it is stopped in time, captured in the static scores of tests. This feature of the product view will have to be dealt with to avoid misisomorphism between a product theory of reading and the complex, changing referent for that theory as it exists in process. The process view of reading is concerned with the total process of reading from beginning to end. Two important aspects of the process view are the author and the reader. The author's graphic output is the reader's graphic input. A communicative transformation occurs when the reader, independent of the author, moves into the time and place conditions that permit sense perception of the author's graphic output. From the meaning, constructed, reconstructed, or both, the reader constructs knowledge. The analogies of meaning are in long term memory, fully available for intensive processing.

19. Palmer, William S. Cognition in Reading: Modes and Strategies for Improvement. Paper presented at the meeting of the International Reading Association, Atlantic City, April 19-23, 1971, 9p. [ED 049 907]

Five modes and strategies for improving cognition in reading are discussed. As defined by the author, cognition concerns recognition of knowledge and development of intellectual skills and abilities. The five points discussed are: (1) cognitive skills can be arranged in a hierarchy; (2) to teach students at or near the apex of the hierarchy, teachers must involve the emotions and personalities of the students; (3) achieving such involvement can be done by building on natural responses and leading toward sophistication and meaning; (4) teacher-student interaction is necessary to develop and refine student responses; and (5) this interaction must be vigorous and should not be allowed to become mechanical. In summarizing his discussion, the author suggests a need for both cognitive and affective objectives on the part of teachers and for involvement of both teachers and students in reading activities. References are included.

20. Pikulski, John J. Assessing Information about Intelligence and Reading. Paper presented at the Annual Meeting of the International Reading Association, New Orleans, May 1-4, 1974, 9p. [ED 090 495]

The purpose of this paper is to discuss the assessment of intelligence as it relates to reading. Its primary focus is upon criteria that might be applies to the information about intelligence and how it relates to reading. The contents include: "General Considerations," which discusses the concept of intelligence, measuring instruments used to assess intelligence, general evaluation of measuring instruments, interpretation of intelligence tests, and

generalizing from the results; "Criteria," which looks at the relationship between intelligence and reading achievement, distortion of test results due to limitations on the part of the child, additional factors that may limit a child's performance, the currency of available information about intelligence and reading, test scores in relation to the child's total behavior during testing, the use of test information about intelligence in a meaningful way, the contribution of information about intelligence to the goal of teaching children to read, and the extent to which information about intelligence and reading contributes to the understanding of either of them; and "Conclusion," which urges psychologists and teachers to work cooperatively in assessing information about intelligence and reading.

21. Reichart, Sandford; and others. The Taxonomic Instruction Project: A Manual of Principles and Practices Pertaining to the Content of Instruction. First Report. New York: Columbia University, Teachers College, 1969, 295p. [ED 055 394]

Presented is the first of three reports on taxonomic instruction, which is defined as a method of systematizing strategies and substances of instruction for purposes of diagnostic teaching. The target population is a group of behaviorally disordered, underachieving boys, aged 10 to 15, and the instructional content is reading, which is divided into basic skills, basic subskills, and sequential levels. The unit on taxonomic instruction explains that the taxonomy model has the following structural organization: instructional content organized logically and sequentially through epistemological analysis; transmission of instructional stimuli through any of pupil's receptive sensory modalities; response elicitation through any of pupil's expressive channels of communication: and mastery of total range of instructional modes and methods available. Five basic skills related to reading are coded as cognitive perceptual, language analysis, comprehension, study skills, and aesthetic expression. Lengthy instructional materials on reading are included for each basic skill. Also included are simulated experiences of a taxonomic inservice teacher education project in the form of 36 facsimiles of various project transparencies, which are intended as a guideline for taxonomic instruction. (see also ED 055 395 and ED 055 396.)

22. Shuell, Thomas J. Individual Differences in Learning and Retention. Final Report. 1972, 176p. [ED 074 485]

In this investigation of potential sources of individual differences in free-recall learning and retention by children, learning ability is defined in terms of performance on a free-recall test with the upper and lower thirds of the distribution typically being defined as fast and slow learners. Variables concerned with short-term memory, presentation rate, study time, distribution of practice, transfer of conceptual schemes, and instruction regarding potential sources of organization in the materials to be learned were investigated. Learning ability was found to be unrelated to short-term

memory, although fast learners had a higher probability of recalling a word on the trial immediately following the trial on which it was first recalled, and they recalled more of the words in the pool to be learned than did slow learners; these findings were suggested to be reflections of individual differences in encoding processes. The use of the same or a somewhat different conceptual scheme in the learning of two successive lists appeared to have differential transfer effects for fast and slow learners. Also, pointing out potentially useful bases of organization in the material to be learned seemed to have differential transfer effects for fast and slow learners. The study was sponsored by the USOE Bureau of Research.

23. Simpson, Bickley F. Multiple Classification, Class Inclusion and Reading Ability. Final Report. Cambridge, Mass.: Lesley College, 1972, 78p. [ED 063 606]

Prompted by Piaget's suggestion that there might be qualitative differences in the thinking processes of children who read well as compared with those who read poorly, this study investigated the mental operations of multiple classification and class inclusion as possible characteristics required for a child to abstract and modify efficient generalizations for reading. Subjects were 27 second graders (1-10 years, mean IQ 116) and 29 fourth graders (9-11 years, mean IQ 107) randomly selected from Natick, Massachusetts, schools--all possessed middle-class families, spoke a standard dialect, and had received adequate reading instruction. White's Free-Sorting Classification Task and replications of items from Rigney's Pictorial Test of Cognitive Development were utilized in the experiment. Results indicated that good classifiers tend to be good readers and that poor readers tend to be preoperational. A child having problems grouping pictures according to varying criteria or dealing with part-whole relationships within a set of categories might have difficulty classifying the letter-sound generalizations necessary for efficient reading. This study was sponsored by the National Center for Educational Research and Development of USOE.

24. Singer, Harry; Ruddell, Robert B., eds. Theoretical Models and Processes of Reading. Newark, Del.: International Reading Association, 1970, 347p. [ED 072 401. Also available from IRA ($6.50 nonmember, $3.75 member)]

The first section of this two-part collection of articles contains six papers and their discussions read at a symposium on Theoretical Models and Processes of Reading. The papers cover the Linguistic, perceptual, and cognitive components involved in reading. The models attempt to integrate the variables that influence the perception, recognition, comprehension, and utilization of printed stimuli. Affective factors influencing these variables in both acquisition and performance are included. The final paper in the symposium presents a brief review of the literature on theoretical models in reading and draws implications for teaching and research from several models selected to represent the reading development continuum from kindergarten through college. The second part of

this volume represents published papers on theories and processes of reading. Included among these are: (1) "The Substrata-Factor Theory of Reading: Some Experimental Evidence"; (2) "A Developmental Model of Speed of Reading in Grades Three through Six"; (3) "A Theory of Language, Speech, and Writing"; (4) "Reading: A Psycholinguistic Guessing Game"; (5) "The Reading Competency Model"; (6) "The Nature of the Reading Process"; and (7) "Learning to Read."

25. Smith, Frank. Psycholinguistics and Reading. New York: Holt, Rinehart and Winston, Inc., 1973, 211p. [ED 071 031. Document not available from EDRS. Available from Holt, Rinehart and Winston, Inc., 383 Madison Avenue, New York, N.Y. 10017 ($4.95)]

Psycholinguistics has offered many new insights into the development of reading, e.g., only a small part of the information necessary for reading comprehension comes from the printed page, comprehension must precede the identification of individual words, and reading is not decoding to spoken language. These views are elaborated in this collection of articles by such authors as George A. Miller in "Some Preliminaries to Psycholinguistics"; Kenneth S. Goodman in "Psycholinguistic Universals in the Reading Process," "Analysis of Oral Reading Miscues: Applied Psycholinguistics," and "On the Psycholinguistic Method of Teaching Reading"; Paul A. Kolers in "Three Stages of Reading"; Deborah Holmes in "The Independence of Letter, Word, and Meaning Identification in Reading"; Carol Chomsky in "Reading, Writing, and Phonology"; Jane Torrey in "Illiteracy in the Ghetto" and "Learning to Read without a Teacher: A Case Study"; and Paul Rozin, Susan Poritsky, and Raina Sotsky in "American Children with Reading Problems Can Easily Learn to Read English Represented by Chinese Characters." In the remaining chapters Smith discusses the learner and his language, alphabetic writing, the efficiency of phonics, the fallacies of decoding, and twelve easy ways to make learning to read difficult.

26. Staats, Arthur W.; and others. Learning and Cognitive Development: Representative Samples (Reading, Number Concepts, Writing) and Experimental Longitudinal Methods. Child Learning Project. Final Report. Honolulu: University of Hawaii, Head Start Research and Evaluation Center, 1969, 184p. [ED 042 183]

The monograph presents the findings of a decade-long research project on the cognitive learning of children. Several other areas of general significance involved in the work are also treated. These include: (1) the importance of the work to the development of basic learning theory; (2) certain developments in methodology and in a philosophy of experimental methodology; (3) inclusion of theories of the aspects of cognitive development dealt with, for example, Piaget; and (4) general implications for a conception of child development through learning. Recognition of the need to use the basic principles and methods of experimental psychology to study representative samples of human behavior led to the execution of the studies presented in the monograph. The four extensively described are: (1) alphabet reading; (2) learning reading units and

classical concept formation; (3) counting learning and counting learning mediated by verbal response chains; and (4) writing learning, imitation, and the cognitive learning acceleration.

27. Stauffer, Russell G. Directing Reading Maturity as a Cognitive Process. New York: Harper and Row, Publishers, 1969, 498p. [ED 041 703. Document not available from EDRS. Available from Harper and Row]

Documented and detailed accounts of productive thinking and concept attainment provide the essence of this textbook intended for use by graduate students who are interested in the teaching of reading as a cognitive process. The first part of the book explains how the foundations of reading instruction are based on thinking. The second and third parts deal with group and individualized instruction--the how and why--and with beginning reading instruction. The fourth part provides the concepts needed to keep word recognition skills in focus. The last part is concerned with the need to improve the efficiency and versatility, as well as the critical and creative reading abilities, of all readers. References are included after each section.

28. Stauffer, Russell G., ed. Language and the Higher Thought Processes. Reprint of articles originally published in Elementary English 42 (April and May 1965): 72p. [ED 022 757. HC not available from EDRS. Available from NCTE (Stock No. 13906, $1.25)]

This collection of seven significant articles on higher thought processes stresses the important relationship of these processes to the teaching of language skills. The articles are: (1) "Language and the Habit of Credulity" by Russell G. Stauffer; (2) "Research on the Processes of Thinking with Some Applications to Reading" by David H. Russell; (3) "Form Consciousness, An Important Variable in Teaching Language, Literature, and Composition" by James R. Squire; (4) "The Teaching of Thinking" by Hilda Taba; (5) "Concept Formation in Children" by Harriett Amster; (6) "The Quality of Qualification" by Murray S. Miron; and (7) "Expressive Thought by Gifted Children in the Classroom" by James J. Gallagher.

29. Stauffer, Russell G. Reading as Cognitive Functioning. Paper presented at the International Reading Association Conference, Kansas City, April 30-May 3, 1969, 26p. [ED 033 820]

Theories and practices concerned with cognitive functioning and development and its possible relationship to reading and reading instruction are reviewed. The nature of the strategies involved in reading and thinking are similar. Increase in task complexity for reading most likely involves cognitive functioning that ranges in complexity similar to the stages Piaget and others have described. Like concept attainment, reading requires of the reader problem-solving ability that is logical and mobile. Reading cannot be regarded as a passive process; like thought, it requires action, and it cannot be directed by passive teaching. The basis of reading is

rooted in action within a developmental interactionist theory of cognitive development. A bibliography is included.

30. Stauffer, Russell G. Reading--A Thinking Process. In Reading and Thinking, Proceedings of the 22nd Annual Reading Institute at Temple University. Philadelphia, Pa.: Temple University, 1965. [ED 015 096. Document not available from EDRS]

    In order to teach reading as a thinking process, teachers should believe that children can think and can be taught to read critically, even at a very young age. Three aspects of the reading-thinking process include declaration of purposes, reasoning, and judgment. The nature of the purposes determines what is to be read and how it is to be read. Reasoning while reading involves the manipulation of ideas to discover logical relationships which eventually lead the reader to make judgments. A fourth aspect might be the refinement and extension of ideas. The directed reading-thinking activity plan is suggested for use with a group using the same materials at the same time under teacher guidance. The plan involves (1) identifying purposes for reading, (2) guiding the adjustment of rate to purpose and material, (3) observing, (4) developing comprehension, and (5) conducting fundamental skill training activities. The plan proceeds on the assumption that children are capable of thinking, acting purposefully, examining, using experience and knowledge, weighing facts, making judgments, having interests, learning, understanding, and making generalizations.

31. Stauffer, Russell G. Reading Instruction and Cognitive Processes. In Reading and Thinking, Proceedings of the 22nd Annual Reading Institute at Temple University. Philadelphia, Pa.: Temple University, 1966. [ED 015 095. Document not available from EDRS]

    Reading and thinking are not always distinct from each other, although each represents different functions and uses. The problem is not whether the two are synonymous, but how much teachers should tell students and how much students should discover for themselves. Recent studies show that children are capable of applying elementary skills of cognitive functioning, even at an early age. All students, therefore, must be given the opportunity to act, to discover, and to make judgments through a reading-thinking process. To read is to deal with cognitive structures through assimilation and accommodation. Reading is accompanied by developmental changes as assimilation-accommodation relationships evolve. Reading is a continuous process of cognitive functioning which involves concept formation as well as categorization. To acquire concepts, the student uses intellectual functions which lead him to categorize. Hence, reading instruction should be a directed reading-thinking activity and should allow students to be articulate, to act deliberately, and to use these intellectual functions.

32. Stauffer, Russell G. Teaching Reading as a Thinking Process. New York: Harper and Row, Publishers, 1969, 424p. [ED 041 704. Document not available from EDRS. Available from Harper and Row]

This book is intended for use as a textbook for college students, especially undergraduates, in courses on the foundations of reading instruction. The author's chief concern was to acquaint preservice and inservice teachers with a philosophy of reading instruction which explains reading as a thinking process. The book is divided into five parts. The essence of the first is that the foundation of reading instruction is thinking. The second part describes how group instruction is to be accomplished and why. Detailed accounts of how reading instruction can be individualized and why this should be done are given in the third section. The fourth part presents a discussion of beginning reading instruction, and the final section provides an exhaustive treatment of the need for skill attainment in word recognition, a discussion of concept development, and an evaluation of the role of testing and reporting. This text is coordinated with a second book, "Directing Reading Maturity as a Cognitive Process," which was designed for use at the graduate level.

33. Taschow, Horst G. Representational Intelligence and Reading Comprehension: An Investigation of Piaget's Developmental Aspects of Cognitive Functions as Related to the Reading Process. Paper presented at the National Reading Conference, Tampa, December 1971, 14p. [ED 059 008. HC not available from EDRS. Available from National Reading Conference]

In Piaget's dynamic conception of the child's cognitive growth, the transition from sensory-motor intelligence to the developmental stage of representational intelligence occurs during 5 to 7 years of age. The development proceeds from undifferentiation to differentiation, from unintentional to intentional, from unintelligent to intelligent, and includes cognitive processes beyond concrete experience that enable the child to master the ability to think symbolically. The symbolic functions are acquired through specialized development in accommodation and assimilation. The understanding of some of the principal characteristics of the child's cognitive orientation during the first two years in school could further success in reading and avoid possible reading failure. During this period, the sensory-motor ancestry still dominates the child's cognitive life with all the attributes postulated by Piaget: concreteness, centration, irreversibility, egocentrism, and transductive reasoning. All these attributes may more or less interfere with the child's learning in general and reading in particular, and may therefore disrupt his developmental process, which concerns the totality of his structures of knowledge. References are included.

34. Thompson, Charles P. A Study of Retention of Verbal Material. Final Report. 1973, 37p. [ED 074 484]

This research project investigated some of the characteristics of primary and secondary memory. In the primary research, subjects were given a list of words followed by an interpolated task. The data of interest were the recall for terminal items in the list. Using this procedure, the researchers have demonstrated negative recency in initial recall and have provided evidence that this effect is

attributable to store-specific interference in primary memory. They have also demonstrated that this effect is a necessary consequence of the procedure rather than the result of a strategy on the part of the subject. In the secondary memory research, interest was focused on procedures in which subjects learned categorized lists. It was demonstrated that subjects learned how to cluster over successive lists and that this effect probably resulted from an increase in the post-item latency used as a criterion to exit a category and search another during recall. It has also been demonstrated that ability to recall is correlated with amount of clustering. Another set of results came from experiments demonstrating that repeated-category interference can be eliminated through the use of sub-categorization or adjectival modification. The project was sponsored by the USOE Bureau of Research.

35. Von Glasersfeld, Ernst. Reading, Understanding, and Conceptual Situations. Paper presented at the National Reading Conference, Tampa, December 1971, 18p. [ED 061 010. HC not available from EDRS. Available from National Reading Conference]

Information necessary to understand many English sentences appears to be supplied by a source outside the sentence which is composed of a fund of knowledge accumulated throughout life. This fund of knowledge may be visualized and a conceptual network into which the incomplete information supplied by a sentence can be mapped, thus making it possible for the reader to fill in the missing pieces of the conceptual situation designated by the sentence. Such a conceptual network would seem to be the source, also, of the various kinds of expectation concerning the contents of those parts of the sentence which the reader has not yet read which help the reader to resolve lexical and relational ambiguities. A greater awareness of this function of the reader's conceptual universe might lead to an improvement of instructional remedial strategies for the teaching of the interpretative language skills. References are included.

36. Witty, Paul A., ed. Reading for the Gifted and the Creative Student. Newark, Del.: International Reading Association, 1971, 66p. [ED 070 044. Also available from IRA ($2.50 nonmember, $2.00 member)]

This booklet is designed to offer teachers and administrators a guide for identification of gifted and creative students. Suggestions for providing appropriate instruction, guidance, and experience in reading are also given. The editor understands the term "gifted" to include not only children of a very high IQ, but also "any child whose performance in a worthwhile type of human endeavor is consistently or repeatedly remarkable." First, the nature and needs of gifted and creative pupils are delineated from scientific studies; second, an overview, as well as detailed descriptions of some outstanding programs, is given of various ways certain schools are attempting to provide the gifted with opportunities in reading; third, the role of the home in fostering development and improvement of reading for the gifted is treated; and fourth, the

characteristics of the effective teacher are set forth and are accompanied by suggestions for instruction and for guidance of the gifted child's reading.

Sensory Integration

37. Balmuth, Miriam. Phoneme Blending and Silent Reading Achievement. Paper presented at the Annual Meeting of the International Reading Association, Atlantic City, April 19-23, 1971, 10p. [ED 052 912]

The relationship between the ability of elementary pupils to blend phonemes in nonsense syllables and their silent reading achievement was examined. An original test designed to measure phoneme blending of nonsense syllables was administered to 252 boys and girls randomly selected from grades 1 through 6 and from a wide ethnic and socioeconomic range of New York City schools. The odd-even technique established the reliability of the instrument at a coefficient of .88. Results showed (1) a .66 relationship between phoneme blending and silent reading achievement for 105 boys in grades 2 through 6; (3) a highly significant relationship between phoneme blending and age, and between phoneme blending and ethnic origin for the total sample of 252; and (4) a nonsignificant relationship between phoneme blending and sex. Implications of the study and suggestions for further research are also included.

38. Caukins, Sivan Eugene, Jr. Teaching Reading--Vision vs. The Muscle Spindles (The Proprioceptors). Summary of a series of lectures given at the Psychological Counseling Center, Long Beach, Calif., Spring 1971, 28p. [ED 056 831]

Literature is reviewed which discusses the role of proprioceptors in basic perceptual and motoric functions. The author cites research on the functions of the muscle spindles in controlling muscles which in turn provide energy, stimulation, and activation of the central nervous system. Research on the relation of motor functions to language development, concentration, visual discrimination, and reading is presented. The Fernald Method, a multisensory method of teaching basic academic skills, is discussed as exemplary of programs which utilize the various kinds of learning processes of the brain. The author suggests that further research be done on how our knowledge of brain functions can contribute to the development of efficient teaching and learning methods.

39. Cleland, Donald L.; and others. Vocalism in Silent Reading. Final Report. Pittsburgh, Pa.: Pittsburgh University, School of Education, 1968, 135p. [ED 027 154]

A project designed (1) to determine the incidence of vocalism during silent reading in intermediate-grade children classified as either reading retardates or achievers and (2) to determine the desirability of this vocalism as an adjunct to the reading process was described. The major conclusions reached were that implicit speech

is a natural adjunct of the reading process, that it is a residue of initially learned oral language patterns, and that it is often used as an additional sensory input. Implications drawn from the study were: (1) that no inhibitory measures should be taken to cause a decrement in manifestation; (2) that implicit speech may be a frame of reference for validating written language patterns as consonant with oral language; (3) that organization of an optimal reading environment conducive to maturity is a sound method for causing a decrement in implicit speech manifestation; (4) that a basal program emphasizing phonics does not result in an undue manifestation of recorded implicit speech; and (5) that mechanically presented reading material may result in greater implicit speech manifestation. A bibliography and three appendixes containing raw data, tests used for population identification, and sample myographic materials are included.

40. Consilia, Sister Mary. Neurological Organization and Reading. Paper presented at the Annual Meeting of the International Reading Association, Anaheim, May 6-9, 1970, 17p. [ED 044 239]

The structure and function of the nervous system as it puts us into contact with out environment is described. Section 1 presents a detailed discussion of the structure of the brain, drawing an analogy to a computer, and discusses the sensory input function. The transport system is then explained in a description of the transmission of sensory impulses along the cerebro-spinal neural pathways. The third section, arrival at the brain, discusses reception or processing function in the brain itself. Implications for the diagnosis of neurologically handicapped learners in terms of pinpointing the area of dysfunction are made. A bibliography is included.

41. Davies, William C. Implicit Speech--Some Conclusions Drawn from Research. Paper presented at the Annual Meeting of the International Reading Association, Atlantic City, April 19-23, 1971, 12p. [ED 050 915]

An overview of research on implicit speech from 1868 to 1970 is presented. Various studies are reviewed in which a variety of mechanical devices were used to examine the psysiological changes that occur during silent reading. Edfelt's use of a mingograph in 1950 was considered a breakthrough, along with his conclusion that efforts to eliminate implicit speech should be discontinued. Clinical applications of these experimental results are also examined, as well as a more recent area of inquiry, that of causation theories. The accumulated opinions of specialists in this area supported the theory that implicit speech may aid comprehension in the primary grades. Research of the 1960s which has direct bearing on implicit speech as a covert-overt form of linguistic behavior includes studies by Cleland and others (1968), Laffey (1966), and Hardyck (1968). Conclusions are drawn from these studies which are pertinent to learning theorists, psycholinguists, and classroom teachers. A bibliography is included.

42. Deutsch, Cynthia P. The Development of Auditory Discrimination: Relationship to Reading Proficiency and to Social Class. Final Report. 1972, 71p. [ED 064 697]

The determination of the relationships among auditory discrimination ability, social class and age group differences, reading skill ability, and visual perceptual skills was the objective of this study, which was sponsored by the USOE Bureau of Research. Fifteen New York City public schools provided 180 first, third, and fifth grade white and black males from lower and middle socioeconomic status (SES). A variety of auditory tests were administered as well as a visual discrimination measure, an attention measure, reading tests, and an intelligence measure. The results largely support the hypothesis that poor auditory discrimination is a major intervening variable between social conditions and reading retardation. The relationship is stronger for blacks than for whites and decreases with age, indicating that teaching and remedial training should be oriented differently for various SES, racial, and age groups.

43. Gould, Lawrence N. An Optometrist Looks at Perception. Paper presented at the International Reading Association Conference, Kansas City, April 30-May 1, 1969, 9p. [ED 030 548]

The relationships of sense modalities included in the broad term "perception" are explored. Vision is a transmission from external world to brain. Ocular mobility and spatial organization abilities are important to vision as it is involved in the perceptual-cognitive process. Kinesthetic and visual behaviors are interrelated and are supplemented by the haptic modality (sense of touch). Auditory perception produces imagery that far surpasses the kinesthetic or haptic senses and, in fact, rivals the visual sense as the major mode of learning. Teaching methods based on these sense modalities should endeavor to present a problem through one modality and then require a maximum number of modalities to be integrated into the response. Available materials which use this technique are listed, and references are included.

44. McGuigan, Frank Joseph. Subvocal Speech during Silent Reading. Hollins College, Va.: Hollins College, 117p. [ED 015 115]

Covert behavior has potentially great scientific and technological importance, though present knowledge of this response class is meager. Scientifically, covert behavior has been studied for two reasons: (1) because of its intimate relation to the "thought processes," and (2) because it is part of the realm of behavior that the psychologist seeks to understand--a science of behavior that confined itself to overt responses would be, at best, incomplete. The broad purpose of the research reported here is to increase the understanding of the nature and function of covert behavior. This report consists of six sections. The problem for each section is developed separately, as are the methods of attacking each problem, the resultant findings, the discussion, and the conclusions. The report documents the occurrence of heightened

covert oral behavior in a variety of situations, and the findings strongly suggest that this kind of behavior is beneficial to the individual in some way. The results are encouraging and form the basis for a more substantial attack on covert behavior. Tables, figures, and bibliographies are included.

45. Pellettieri, A. J. The Neurophysiology of Learning and Pedagogy. Paper presented at the National Reading Conference, St. Petersburg, Fla., December 3-5, 1970, 11p. [ED 056 839]

In an effort to narrow the gap between scientific findings and applied clinicians, the author exposed clinical cases to recent laboratory findings of neurophysiology and sought to find a relation between the two. Two studies about the operation of the mind in information processing and learning were related to two clinical cases. The hyperactive child in the first case was partially brain injured. Visual modes of instruction tended to excite him excessively and result in poorer performance. The author proposed that for this child, audio presentation of instruction would offer more learning prospects than video. In the second case, the child's slight hearing loss was assumed to have resulted in some distortion of auditory input, and this affected his learning. It was felt that the child's facilitation pattern for coding was not sensitive enough for picking out cultural chords and that for him the instructional system might be too encumbered. It was concluded that breaks in learning often stem from physiological processes and that the psycho-educator should make use of the established facts of the past seven years from anatomy and physiology to update pedagogy. References are included.

Perceptual Development

46. Balmuth, Miriam. Visual and Auditory Modalities: How Important Are They? Paper presented at International Reading Association Conference, Boston, April 24-27, 1968, 17p. [ED 024 525]

Research conducted over the past 80 years is examined to answer three questions on sensory modality as it relates to reading. In the 18 studies reviewed which relate to the superiority of one modality over another, there was no consensus regarding the relative effectiveness of modalities among adults. The evidence leans toward greater effectiveness of the visual modality among children. The review of eight studies which compared the effectiveness of the simultaneous use of more than one modality with the use of one modality alone revealed a problem in the definitions of modalities as used by different investigators. The results of these studies, however, generally support a combination of visual and auditory modes. Eight studies are reviewed which relate modality to reading ability. These studies suggest that while modality and perceptual skills are very important as factors in the early stages of reading instruction, cognitive abilities are more significant during the middle elementary grades. References are included.

47. Berger, Allen. Speed Reading, An Annotated Bibliography. Newark, Del.: International Reading Association, 1970, 43p. [ED 074 481. Also available from IRA ($0.75 nonmember, $0.50 member)]

Approximately 150 references to speed reading published during the past 40 years, including 50 new entries, are included in this revised annotated bibliography. The new entries relate mainly to research but also include some references to theoretical discussions. The references are grouped into the categories of tachistoscopic and controlled pacing, paperback scanning, retention of gains, flexibility, perception, processing information, studying, conditioning, sex differences, and measurement. With each category is a brief evaluation of the significant trends in that area and a recommendation of particularly noteworthy studies, after which the main body of listings appears in alphabetical order according to the author's last name. References to other related bibliographies and pertinent research summaries are also included. (This document previously announced as ED 046 624.)

48. Buktenica, Norman A. Group Screening of Auditory and Visual Perceptual Abilities: An Approach to Perceptual Aspects of Beginning Reading. Paper presented at the Annual Convention of the American Psychological Association, Washington, D.C., September 1969, 11p. [ED 033 751]

A three-year study attempted (1) to predict reading achievement through third grade, (2) to establish data for a nonverbal discrimination test, (3) to devise supplementary perceptual instructional programs, and (4) to develop screening devices to assess perceptual abilities and identify potential learning disabilities. In first, second, and third grades 140 Negro and white children of lower and middle class backgrounds were administered a battery of auditory and visual perceptual tests. The children had the same reading program and took a reading achievement test in first grade and at the end of third grade. Correlations between tests of nonverbal auditory and visual perception and reading achievement remained significantly high and rather constant over the three-year period. The best predictor of reading ability was the test of nonverbal auditory discrimination, but all perceptual tests were more effective than IQ measures. By using group-administered, nonverbal auditory and visual perceptual tests, it is possible to identify children's potential in reading achievement at the beginning of first grade, and to develop special instructional methods for children with perceptual problems.

49. Buktenica, Norman A. Perceptual Mode Dominance: An Approach to Assessment of First Grade Reading and Spelling. Chicago, Ill.: University of Chicago, 1967, 26p. [ED 026 132]

This study investigates the relationship between auditory and visual acuity and the learning of first-grade reading and spelling. It was the aim of this study (1) to clarify the relationship between auditory and visual perception; (2) to investigate the ability of

subjects to read and spell when, and if, differences exist in the perceptual modalities; and (3) to see if there exists a relationship between perceptual ability and socioeconomic status. The subjects, 342 first-grade children from three types of socioeconomic groups, were administered an intelligence test, then auditory and visual tests, and, at the end of the school year, reading and spelling tests. The results showed that (1) there was no substantial relationship between visual and auditory perceptual modalities; (2) the composite use of both modalities as predictors of achievement was more effective than the use of each alone; (3) nonverbal auditory and visual perceptual variables were better predictors than perceptual variables with verbal components; (4) auditory discrimination was more important in middle class children and visual perception was more important in lower class subjects for prediction of first-grade achievement; and (5) middle class children were more able on perceptual variables having verbal components than lower class children.

50. Case-Gant, Alexa. Visual Literacy: An Exciting Environmental Adventure. Richmond, Va.: Richmond Public Schools, [1973], 5p. [ED 07[illegible] 448]

A Title 1 five-year Visual Literacy Experimental Program was initiated in four kindergarten classes during the 1972-73 academic year. The program was designed to focus on a hierarchy of visual skills and aesthetic experiences involving body language, graphic expressions, and photography, and to correlate these with the objectives of the classroom teacher. Conventional techniques for distinguishing differences and similarities among tastes and tactile impressions, light and dark, open and closed, shape, hue and size, space perception, and rates of movement were greatly enhanced by photographing these experiences and playing them back to the children. The children's verbal complexity index was increased. The incorporation of a tape recorder was complementary to the overall goal of developing vocabulary, articulation, and the appreciation of visual and verbal forms. The program was initiated enthusiastically by the classroom teachers and was relatively easy to carry out.

51. Clayman, Deborah P. Goldweber. The Relationship of Error and Correction of Error in Oral Reading to Visual-Form Perception and Word Attack Skills. Ed.D. Dissertation, Columbia University, 1971, 89p. [ED 068 897. Document not available from EDRS. Available from University Microfilms (Order No. 72-8518)]

The ability of 100 second-grade boys and girls to self-correct oral reading errors was studied in relationship to visual-form perception, phonic skills, response speed, and reading level. Each child was tested individually with the Bender-Error Test, the Gray Oral Paragraphs, and the Roswell-Chall Diagnostic Reading Test and placed into a group of good or poor readers. Findings indicate that good readers: (1) correct more oral reading errors, both spontaneously and when their attention is called to their error, than poor

readers; (2) are better in phonic skills; (3) are faster in speed of responding on both verbal and nonverbal materials; and (4) are not significantly different from poor readers on awareness of errors in gestalt-like forms. These results indicate that phonic skills are highly related to reading skill as well as to the ability to correct reading errors. Since spontaneous corrections were not significantly related to phonics, particularly in good readers, some support of the linguistic position, or the importance of meaning cues for successful reading, is indicated.

52. Coleman, James C.; McNeil, John D. Auditory Discrimination Training in the Development of Word Analysis Skills. Los Angeles: University of California, 1967, 99p. [ED 018 344]

The hypothesis that children who are taught to hear and designate separate sounds in spoken words will achieve greater success in learning to analyze printed words was tested. The subjects were 90 kindergarten children, predominately Mexican-Americans and Negroes. Children were randomly assigned to one of three treatments, each of three weeks duration--an autoinstructional program in beginning reading, an autoinstructional auditory training program that used no visual stimuli, and noninstruction in reading and auditory discrimination. After the three experimental treatments, all the children received programed lessons in reading identical to those in the first treatment above. Achievement was measured by errors during instruction in reading, scores earned on a test of word analysis skills, and scores earned on an auditory discrimination test. It was found that the auditory treatment resulted in a lower reading error rate and more successful performances in both the talk of word analysis and auditory discrimination. The exclusively auditory program was followed by instruction in reading more effectively improved skills for analyzing printed words. Auditory training on selected phonemes helped learners associate graphemes and phonemes even when the phonemes were different from those in training. Auditory training was especially beneficial to boys and children of lower intelligence. References, appendixes, and examples of tests and lessons used are included.

53. Cooper, J. David. A Study of the Learning Modalities of Good and Poor First Grade Readers. Paper presented at the International Reading Association Conference, Anaheim, May 6-9, 1970, 21p. [ED 044 252]

A sample of fifteen good and fifteen poor first-grade readers, selected on the basis of the teacher's classification, performance on the Gates-MacGinitie Reading Test, Primary A, Form 1, and the Peabody Picture Vocabulary Test, was individually taught five nonsense syllables by each of four teaching modality procedures: visual, auditory, kinesthetic, and a combination of the three. The teaching procedure was based on the Mills Learning Methods Test and was carried out by the researcher in a laboratory situation. Twenty-four hours later, a test of retention was given. As expected, good readers took significantly fewer trials to master nonsense syllables

and retained more nonsense syllables than the poor readers did. However, no single mode of learning resulted in significantly superior acquisition or retention of nonsense syllables for either good or poor readers as a group. Rather, modality preference appeared to be an individual matter. Limitations and educational implications of the study are given, and tables and references are included.

54. Corman, L.; and others. Applicability of Rapid Reading Instruction to the Middle Grades. Studies in Learning Potential 3(1973): 25p. [ED 085 681]

This study determined the effectiveness of a rapid reading program in improving comprehension and rate of approximately 300 fifth and seventh grade students. Repeated measures analyses of variance were used to compare changes in rate and comprehension during an eight-week rapid reading program with three groups of students: those instructed by a rapid reading specialist, those instructed by their classroom teacher trained by the specialist, and a control group. Results indicated that reading rate of fifth graders significantly improved after instruction by either the specialist or the teacher. Comprehension of fifth and seventh graders did not increase significantly after instruction.

55. Deutsch, Cynthia P. Auditory Discrimination and Learning--Social Factors. Paper prepared for the Arden House Conference on Pre-School Enrichment of Socially Disadvantaged Children, December 16-18, 1962, 38p. [ED 001 116]

Evidence suggests reading ability is related to other communication skills such as listening and speaking. Disruption in the process of receiving, analyzing, and utilizing auditory stimuli may have deleterious effects upon a child's development of reading skills, especially if this disruption occurs in preschool children. Those growing up in noise-filled slum areas may, thus, need auditory discrimination training in order to derive maximum benefit from reading training. Kindergarten may be the optimum time for this training. Studies show that the Wepman Auditory Discrimination Test correlated with few other measures of verbal skills. More significant relationships were found between Wepman scores and verbal measures for retarded readers than normals and more for first graders than for fifth-grade children among subjects unselected for reading ability. Characteristics of poor readers were found to be that they have more difficulty with auditory discrimination, more difficulty with shifting between visual and auditory modalities, and they are more inefficient at a serial learning task when the stimuli are auditory rather than visual. Here again the performance of poorer readers related to better parallels that of younger children as compared with older. This tends to support De Hirsch's hypothesis of "neurophysiological immaturity" in many children with reading and language difficulties. One can thus postulate that minimum level of auditory discrimination skill is necessary for the acquisition of reading and of general verbal skills. Once that

minimum level is reached auditory discrimination may no longer be highly correlated with these abilities.

56. Ford, Marguerite P. An Exploratory Study of the Relationship of Auditory-Visual and Tactual-Visual Integration to Intelligence and Reading Achievement. New York: Columbia University Teachers College, 1967, 23p. [ED 010 595]

The relationship of auditory-visual and tactual-visual integration to intelligence and reading achievement was investigated. In addition, the relationship of the two intersensory integration tasks to each other and to the type of reading errors made on an oral diagnostic reading test was also explored. The sample was composed of 121 white fourth-grade boys drawn from a middle-class suburban community. The measure of tactual-visual integration required the matching of a geometric shape felt, but not seen, to one of four visual choices. The measure of auditory-visual integration required subjects to match a rhythmic auditory pattern with one of four visual dot patterns. The tactual-visual test, auditory-visual test, and the Gates-McKillop Reading Diagnostic Test were administered to all subjects. Scores on the Henmon-Nelson Intelligence Test and the Iowa Tests of Basic Skills were obtained from school records. All the data were subjected to a correlated analysis. The results of the study indicated that auditory-visual integration skills were significantly related to intelligence and to both silent and oral reading ability, whereas tactual-visual integration skills were not, the findings in this case differing markedly from those of Buchner (Columbia University, 1964). It was recognized that these results held only for the types of intersensory integration tasks employed and that generalizations to other types of intersensory tasks could not be made.

57. Gibson, Eleanor J. The Relationship between Perceptual Development and the Acquisition of Reading Skill. Final Report. Ithaca, N.Y.: Cornell University, Department of Psychology, 1971, 104p. [ED 067 640]

The work described in this report, which was sponsored by the USOE Bureau of Research, is aimed at understanding the role of cognitive development, especially perceptual development, in the reading process and its acquisition. The papers included describe: (1) a theory of perceptual learning, (2) an investigation of the perception of morphological information, (3) the role of categorical semantic information in a visual search task, (4) an investigation of orthographic structure in a visual search task, (5) the role of both syntactic and semantic information in an experiment involving anagram solution, (6) a comparative study of auditory and visual temporal presentations of Morse-code-like patterns, and (7) the design for an investigation of perceptual ordering strategies in relation to categorization in recall. These studies shift the emphasis in reading research from decoding to realizing the syntactic and semantic information; incorporating the rule systems that differentiate reading from the rote learning; and developing

economical, adaptive ways of processing the encoded message. (See ED 067 641.)

58. Gibson, Eleanor J. The Relationship between Perceptual Development and the Acquisition of Reading Skill. Appendix to Final Report. Ithaca, N.Y.: Cornell University, Department of Psychology, 1972, 31p. [ED 067 641]

Second and fifth graders were presented with a discrimination learning task in which each of four displays were to be paired with a response button. For one group two of the displays shared a common feature and were paired with the other response button. This common feature condition required a subject to learn only two associations if he perceived and used the two as a collative principle. For another group, the four displays shared no common feature and the four associations had to be learned. Following the original learning task, both groups were given four new displays, with common features for each of two pairs. The displays for half the subjects were printed words having a common feature of rhyme and spelling pattern. For the other half, the displays were pictures representing the words, so the rhyming names of the pictures were the common features. When the displays were words, the fifth graders performed better than second graders. When there was no common feature, fifth graders did not excel second graders. When displays were pictures, fifth graders showed a significant transfer effect. It was concluded that ability to use a common feature economically increases with age and that common spelling patterns have little saliency for second graders. This study was sponsored by the USOE Bureau of Research. (See ED 067 640.)

59. Hanes, Michael L. The Effect of Auditory Dimensional Preference on the Auditory Discrimination Performance of Children. Institute Report No. 105. Bloomington: University of Indiana Institute for Child Study, 1973, 18p. [ED 076 953]

Two studies investigating auditory information processing abilities of children are reported in this document. The first study analyzed the preferred specific acoustical dimension in an auditory discrimination task of preschool and sixth grade children from low and middle socioeconomic groups. Results indicated that children at both age levels do exhibit an auditory dimensional preference in a three-choice pure-tone discrimination task but that neither socioeconomic status nor age has a significant effect on dimensional preference. The second study investigated the relationship between pure-tone discrimination, as well as auditory dimensional preferences in discrimination, and linguistic discrimination across a narrow age range. Twenty-four preschool children, twelve four year olds and twelve five year olds served as subjects. The results indicate that while auditory processing abilities do not differ between samples, linguistic discrimination performance may vary due to the increased number of structural units accessible to each memory component for the analysis-by-synthesis process.

60. Jones, John Paul. Learning Modalities--Should They Be Considered? Paper presented at the Annual Meeting of the International Reading Association, Atlantic City, April 19-23, 1971, 11p. [ED 052 899]

The author summarizes and reviews seven research studies which seek to determine the role of individual modal preference as related to learning to read. The seven studies are by Bateman (1968); Robinson (1968); Jones (1970); Bruininks (1968); Cripe (1966); De Hirsh, Jansky, and Langford (1966); and Bursuk (1971). Of these studies, only Bursuk firmly supports the theory that the modal preference of an individual should be considered in teaching him to read. All seven studies concentrate on studying visual and auditory modalities. The author feels that it would be extremely difficult to find an approach for teaching which would eliminate almost entirely the role of either the visual or auditory mode. A second problem he mentions is the identification of modal preference--for this purpose a modal preference test considering both the conceptual and the perceptual aspects of learning should be developed. He concludes that more experimentation is needed to assure the testing of modal preference and its relationship to learning. References are included.

61. Kling, Martin. Some Relationships between Auditory and Visual Discriminations. California Journal of Educational Research 19 (September 1968): 170-182. [ED 034 655]

An audiovisual sensory test on 66 educational psychology students supported the contention expressed in Holmes' "Substrata Factor of Reading" that the individual differences in the sensory modes are not necessarily highly correlated. It further suggested that there exists an "intersensory facilitation," but that facilitation is probably not at the level of elementary perception but on the somewhat higher levels of cerebral association. Students were assigned to two groups alphabetically. Those in group 1 were asked to distinquish between tone pairs and then between pairs of visual wave patterns. Group-2 students were tested first for visual and then for auditory discrimination. Statistically insignificant correlations were found between age and ability to discriminate both sound and visual pairs. No sex differences were found in either test. Although group 1 scored higher than group 2, the auditory test was much easier for both groups than was the visual test. An analysis was made of the auditory and visual scores of the upper and lower 27 percent of students in order to determine whether greater sensitivity in one sense modality necessarily facilitates, inhibits, or is compensated for in the other mode. All the correlations were low and not statistically significant. It did not seem that extreme visual and auditory discrimination abilities measured by the tests were correlated. Tables and references are included.

62. Language Arts: Decoding Skills K-12. Revised Edition. Los Angeles, Calif.: Instructional Objectives Exchange, 1972, 142p. [ED 066 741. Document not available from EDRS. Available from Instructional Objectives Exchange, P.O. Box 24095, Los Angeles, Calif. 90024 ($8.00)]

This revised collection for kindergarten through high school, containing 118 objectives with 5 evaluation items per objective, is organized as follows: (1) discrimination: the ability to discriminate between auditory sounds, colors, rhymes, and word meanings; (2) sight vocabulary: a 250-word basic sight list; (3) recognition of letters by name (upper and lower case printed, script, or cursive); (4) recognition of sounds and their association with letters, such as long and short vowels, and single and initial consonants; (5) pronunciation of letter combinations and words, such as variant pronunciation of consonant and vowel, and consonant combinations. As an appendix, a breakdown of the "Dolch Basic Word List" by levels is provided. As additional reaching aides for the non-reader, many sample items include word pictures.

63. Lindamood, Patricia C. Facilitation of Language and Literacy Development through Intensive Auditory Perceptual Training. Paper presented at the Third Annual TESOL Convention, Chicago, March 5-8, 1969, 8p. [ED 028 430]

The Auditory Discrimination in Depth (A.D.D.) program suggests that there is a direct relationship between auditory discrimination or auditory perceptual ability and the development of competency in language and literacy skills. (Auditory perceptual ability is defined as the ability to discriminate individual phonemes and to track their changing temporal relationships as oral patterns vary.) Individuals with sub-standard language and literacy skills can often discriminate test pairs correctly as to sameness and difference but cannot indicate how or where the patterns are different. The A.D.D. program has proved "effective in developing the ability to conceptualize auditory patterns in detail." This program, developed in remediation of language and/or literacy problems for both children and adults, provides for a grasp of the interrelationships between speech, writing, and reading and establishes a circular auditory-visual-vocal check system which allows each skill to support and reinforce the others. One feature of the program is the use of labeling and syntactical mediation to establish awareness of auditory, visual, and kinesthetic relationships among the phonemes of English. (The author's detailed description of this program, "The A.D.D. Program, Auditory Discrimination in Depth," May 1969, is published by Teaching Resources, 100 Boylston Street, Boston, Mass. 02167.)

64. McAninch, Myrene. Investigation of Recognition Variance of Perceptual Stimuli Associated with Reading Proficiency. Paper presented at the International Reading Association Conference, Kansas City, April 30-May 3, 1969, 5p. [ED 030 552]

The relationship between reading ability and recognition of four kinds of perceptual stimuli for purposes of reading disability diagnosis was investigated. The sample consisted of 84 male third-grade pupils who were matched on intellectual ability but who differed in reading proficiency. Three groups, based on a six-month discrepancy either above or below grade placement between

reading achievement and potential as determined by the Bond-Tinker formula, were formed. Recognition tasks were presented by tachistoscope. The four perceptual categories were (1) geometric or abstract configuration, (2) pictorial design, (3) alphabetic symbol, and (4) word unit. Geometric forms, alphabetic symbols, and word units were found to significantly differentiate (.01) between able and disabled readers. Alphabetic symbols appeared to be a slightly higher predictor than the other two forms. Implications were that present readiness materials stressing discrimination of pictorial and abstract forms are less effective in predicting reading proficiency than are forms actually involved in the reading act, namely letters and word units.

65. Oakland, Thomas. Relationships between Social Class and Phonemic and Nonphonemic Auditory Discrimination Ability. Paper presented at the American Educational Research Association Conference, Los Angeles, February 5-8, 1969, 20p. [ED 031 383]

The relationships between social class membership and performance on phonemic and nonphonemic auditory discrimination tests were examined. Three socioeconomic groups--upper-middle class (UM), upper-lower class (UL), and lower-lower (LL) class--of 20 subjects each were administered the Wepman Auditory Discrimination Test and Nonphonemic Auditory Discrimination Tests of Intensity, Frequency, and Pattern. The socioeconomic status of all Caucasian students within six first-grade classes was determined by ratings on the index of status characteristics. A table of random numbers was used to assign the subjects to each of the socioeconomic groups. On the Wepman Test the UM group and the UL group performed significantly better than the LL group. On the Nonphonemic Auditory Discrimination Tests, the UM group performed significantly better than did the Ul or the LL groups on seven of 12 measures. On no measure was a lower socioeconomic group significantly better than a higher socioeconomic group. Correlations between error scores on the Wepman Test and error scores on the Nonphonemic Auditory Discrimination Tests seem to indicate that the phonemic and nonphonemic tests measure somewhat different abilities, and the use of combined results is recommended. Tables and references are included.

66. Otto, Wayne; Askov, Eunice. The Role of Color in Learning and Instruction. Madison: University of Wisconsin Research and Development Center for Cognitive Learning, 1968, 14p. [ED 021 697]

Research on the function of color in instruction and learning is reviewed, and the rationale for its use in instructional materials and as an aid to learning is examined. Three points are made: (1) on the basis of research results, it is not yet possible to prescribe the use of color cues in instruction; (2) color is presently being used in instructional materials only as a means of carrying basic information, not as an additional cue to enhance learning; and (3) the cue value of color depends on the availability of a variety of other more potent cues. It is implied that the nature and extent of interaction among differing ages, abilities, skill

development, color cues, and other available cues should be further clarified. This study was sponsored by the USOE Bureau of Research.

67. Relationship between Auditory Abilities and Academic Skills. Bibliography. Baltimore, Md.: Johns Hopkins Medical Institutions, Information Center for Hearing, Speech, and Disorders of Human Communication, 1969, 7p. [ED 046 632]

A bibliography of 21 articles concerned with the relationships between auditory abilities, academic skills, and other factors is presented. The entries refer to studies which include deaf, hard-of-hearing, and normal-hearing subjects and investigate the relationship of auditory ability to such factors as reading ability, general school achievement, intelligence, personality, conceptual thinking ability, and English morphological abilities. To compile this bibliography a search was made of the information center document files at the Johns Hopkins Medical Institutions. The bibliography is arranged in alphabetical order according to author and includes articles from 1965 through 1968.

68. Rosner, Jerome. Adopting Primary Grade Reading Instruction to Individual Differences in Perceptual Skills. Paper presented at the Annual Meeting of the College Reading Association, Silver Springs, November 1-3, 1973, 24p. [ED 086 965]

Reading instruction should be modified to make it compatible with students' perceptual skills. Assessing the adequacy of a student's perception is pertinent to planning his reading instructional program--not because the teacher can then teach to a preferred modality but, rather, because it can help the teacher determine whether the student has acquired the basic skills that are assumed by the particular instruction program that is to be used in the classroom. Some suggestions that teachers should follow for teaching reading to children with substandard perceptual skills include: only capital letters should be used until the student has acquired some degree of reading fluency; modify the text by adding a distinctive cue to potentially confusing letters; "b" and "d" should not be taught in juxtaposition; instruct the student to use his finger as a pointer, pointing to each word as he reads; teach the student that the start of a new sentence is signaled by a capital letter and the end by a period; introduce only a few sentences at first; for students who exhibit a deficit in auditory perception, phonics based instruction is needed; and teach the student to repeat what he has heard and wants to remember.

69. Rosner, Jerome. The Development and Validation of an Individualized Perceptual Skills Curriculum. Pittsburgh, Pa.: University of Pittsburgh Learning Research and Development Center, 1972, 115p. [ED 063 098]

Having rejected the assumption that children meeting the criteria of "unimpaired" possess the basic perceptual skills needed to organize raw data into meaningful symbolic units, and the notion

that children less adept in these skills can be categorized as "learning disabled" or "culturally disadvantaged," the Learning Research and Development Center at the University of Pittsburgh initiated a project which resulted in the Perceptual Skills Curriculum. Organized into four goals, the project determined: (1) which perceptual skills are related to reading and arithmetic at the primary level, (2) whether such skills can be trained effectively, (3) whether training can be measured in classroom behavior, and (4) ways in which the training can be implemented in the classroom. It was concluded that perceptual skills can be managed in the classroom by using an organized testing and training program which recognized individual differences among children. (A bibliography is included.)

70. Samuels, S. Jay. Attention and Visual Memory in Reading Acquisition. Research Report #26. Minneapolis: University of Minnesota Research, Development, and Demonstration Center in Education of Handicapped Children, 1971, 34p. [ED 071 238]

Tasks involved in paired associate learning (attention, perceptual learning, visual and auditory memory, response learning, and stimulus-response connections) are identified as some of the same skills and strategies involved in learning to read. Two studies on visual memory, the developmental lag hypothesis, and reading ability are examined to show that memory strategies and the ability to encode these are important factors in visual memory and that good readers are superior to poor readers in differentiating hard to distinguish stimulus terms in paired associate learning tasks. Good readers are thought to have a superiority in perceptual learning and recall which transfers to reading subskills. Studies on attention, acquisition, and transfer are examined along with models of memory and studies on the role of distinctive feature training in acquisition and transfer. The author concludes that attention and memory are active processes which involve the use of strategies and which undergo developmental changes. Teachers are urged to teach paired associate learning as a multi-stage process beginning with perceptual learning tasks in order to improve visual memory skills. Goals for beginning readers are said to be accuracy and automaticity in the following successive skills: distinctive feature learning, schemata (chunk) learning, and the making of stimulus-response connection. This study was sponsored by the USOE Bureau of Education for the Handicapped.

71. Samuels, S. Jay. Attentional Processes in Reading--The Effect of Pictures on the Acquisition of Reading Responses. Paper presented at the American Educational Research Association Conference, New York, February 1967, 15p. [ED 014 370]

The hypothesis tested was that when pictures and words are presented together, the pictures may miscue and divert attention, and thereby interfere with the acquisition of reading responses. In experiment 1, 30 randomly assigned pre-first graders learned to read four words with no pictures, a simple picture, or a complex picture present.

During acquisition trials, when pictures were present, the simple and complex picture groups made more correct responses. During test trials, with no pictures present, the no-picture group excelled. In experiment 2, 26 matched pairs of first graders were given classroom reading instruction under a no-picture or picture condition. The results disclosed that poor readers with no picture present learned more words. Among better readers the difference was not significant. Tables and references are included.

72. Smith, Frank. Overloading the Competent Reader. Paper presented at the Annual Meeting of the National Council of Teachers of English, Las Vegas, November 1971, 12p. [ED 085 674]

Two sources of information are involved in reading; the visual information picked up by the eyes from the printed page and the nonvisual information, or prior knowledge, that the reader possesses. An overreliance on visual information leads to an overloading of the cognitive process involved in reading and loss in comprehension. Overreliance on visual information may result when a reader (1) has inadequate nonvisual information, (2) is expected to put too much visual information into memory, or (3) is too concerned over the prospect of missing some information or of making a mistake. Any of these three conditions can in effect make reading impossible for an otherwise competent reader.

73. Smith, Helen K., ed. Perception and Reading. Proceedings of the Annual Meeting of the International Reading Association, Seattle, May 1967, 140p. [ED 074 442. Also available from IRA ($3.50 nonmember, $3.00 member)]

This bulletin is a compilation of papers dealing with the role of perceptual functions in reading and reading difficulties that were delivered at the 1966-67 convention of the International Reading Association. Various sections are devoted to discussions of and reports of research on such matters as the auditory and visual modalities in reading, the neurological and psychological, and sociological aspects of perception in reading, and the relationships between personality, intelligence, perception, and reading achievement. A final section discusses the application of research findings to instructional and diagnostic practice.

74. Valtin, Renate. Report of Research on Dyslexia in Children. Paper presented at the Annual Meeting of the International Reading Association, Denver, May 1-4, 1973, 12p. [ED 079 713]

This paper summarizes several research studies related to reading and writing disabilities in children. The major purpose of these investigations was to test some of the German theories on dyslexia, especially regarding visual perceptual problems, spatial orientation, and dominance factors. The dyslexic child, as defined in Germany and used in this study, is a child with reading and writing disabilities who possesses normal intelligence. Children with and without reading and writing problems were matched according to IQ,

sex, age, grade level, and occupation of father and were then compared in visual perception, dominance factors, and spatial orientation. Dyslexic children were found to be inferior in articulation, auditory discrimination, and vocabulary, but they did not differ in grammatical structure of oral language and in concept formation. The interpretation of findings suggests that home variables and early parent-child interactions bear relevance for reading and writing problems. Remedial education considering specific personality traits of dyslexia, such as non-directive play therapy, was found to be successful.

75. Weintraub, Samuel, comp. Vision-Visual Discrimination. Reading Research Profiles. Newark, Del.: International Reading Association; Bloomington, Ind.: ERIC Clearinghouse on Reading, 1973, 80p. [ED 073 437. Also available from IRA ($1.50 nonmember, $1.00 member)]

This annotated bibliography contains both opinion and research articles dealing with various aspects of vision. The entries are divided into four categories: visual acuity, visual perception, perceptual motor development, and eye movements. Within each category are entries presenting controversial and contradictory viewpoints and evidence enabling the reader to persue many opinions while forming his own.

76. Wepman, Joseph M. The Modality Concept: Background and Research. Paper presented at the Annual Meeting of the International Reading Association, Atlantic City, April 19-23, 1971, 11p. [ED 053 864]

In 1964 the author proposed a multisensory approach to reading, and reading was seen as a language skill related to the development of verbal symbolic behavior. A closer focus was permitted on the child's learning process, which consists of preverbal learning (perceptually automatized and subconsciously acquired) and conceptual learning (which is only accomplished when the child can bend his perceptually processed alphabets to his expressive verbal needs). Further research has indicated that an early development of either auditory or visual perceptual processes leads to early and accurate use of speech or reading, respectively. Research also has shown that as the child develops he appears to use one modality in preference to others in learning, but modality dominance tends to be overcome by most children around the age of 9. In 1969 perceptual process development was clearly defined by Chalfant and Schefflin, and since then a perceptual test battery which seeks to determine the level of development of necessary preverbal skills has been developed. Although the battery is still in an experimental form, sufficient research has been done with it to offer some direct observations. It was concluded that most research studies suggest that slower developing individual modalities is a natural process which should not be confused with other handicaps and that educational programs should be developed to suit the modality preference of the individual child.

77. Wepman, Joseph M. The Modality Concept--Including a Statement of the Perceptual and Conceptual Levels of Learning. Paper presented at the Annual Meeting of the International Reading Association, Seattle, May 4-6, 1967, 20p. [ED 012 678]

The differences among children in their use of specific modalities for learning and the necessary establishment of perceptual bases for conceptual learning are discussed. A model is presented which emphasizes the modality-bound nature of input and output and elaborates the hierarchial but interrelated nature of the maturation and development of the neural system. The importance of the distinction of modality learning lies in the direction for assisting underachievers. The effect upon reading achievement is discussed. References are included.

78. Wilson, Robert M. Let's Get Specific about Visual Perception. College Park, Md.: University of Maryland, College of Education, 1967, 9p. [ED 038 262. Document not available from EDRS. Available in Speaking to the Issues: Position Papers in Reading, University of Maryland, College of Education, College Park, Md. 20742]

Visual perception as a part of the reading problem has been difficult for some classroom teachers to comprehend because of the confusion about meaning. This confusion has been due in part (1) to failure to define the term "visual perception" before writing about it, (2) to studies which take a narrow view of perception yet make broad conclusions, and (3) to failure of studies to present practical suggestions for the classroom teacher. This article is presented as a guide to several specific aspects of perception and to their implications for the classroom teacher. Discussion is limited to that aspect of visual perception which enables a person to look at a portion of print and transmit an accurate image to the brain at will. Presented in chart form are symptoms of visual perception problems observable in the classroom, specific diagnostic instruments, and remedial suggestions. A clear understanding of visual perception is important to teachers, according to the author, for a teacher working with specific problems of visual perception can help a child become a better reader and a better learner. References are included.

79. Witkin, Belle Ruth. Reading Improvement through Auditory Perceptual Training; End of Budget Period Report, July 1, 1971-June 30, 1972. Hayward, Calif.: Alameda County Superintendent of Schools, 1972, 158p. [ED 079 694]

The purpose of this program was to demonstrate the effectiveness of a tape-recorded, sequenced program of auditory perceptual training in raising the reading and listening skill levels of students in grades two to six. Eighty-five boys and 67 girls in the second grade and 25 boys and 14 girls in learning disability group clinics in grades two to six participated in the program. The students were given tape-recorded lessons twice a week. The lessons were given free field by the teachers in the second-grade classrooms to

the entire class at one time. In the learning disability groups, children took the lessons in groups of two to six in listening centers. A total of 39 lessons and four Interim Review Tests, also tape-recorded, were given over a six-month period. Children in the learning disability groups could take the lessons over until they mastered them before taking the Interim Review Tests. The Gilmore Oral Reading Test, a tape-recorded criterion-referenced listening test, the Lindamood Auditory Conceptualization Test, and the Short Form Test of Academic Ability were used to assess progress. The results indicated that criterion levels were reached on three of the four Interim Review Tests. The students made significant pre-post test gains on most of the variables, but replication of the study for a third year was suggested.

Speed Reading

80. Berger, Allen. Speed Reading, An Annotated Bibliography. Newark, Del.: International Reading Association, 1970, 44p. [ED 074 481. Document not available from EDRS. Available from IRA ($0.75 non-members, $0.50 members)]

Approximately 150 references to speed reading published during the past 40 years, including 50 new entries, are included in this revised annotated bibliography. The new entries relate mainly to research but also include some references to theoretical discussions. The references are grouped into the categories of tachistoscopic and controlled pacing, paperback scanning, retention of gains, flexibility, perception, processing information, studying, conditioning, sex differences, and measurement. With each category is a brief evaluation of the significant trends in that area and a recommendation of particularly notewrothy studies, after which the main body of listings appears in alphabetical order according to the author's last name. References to other related bibliographies and pertinent research summaries are also included.

81. Corman, L.; and others. Applicability of Rapid Reading Instruction to the Middle Grades. Studies in Learning Potential 3(1973: 25p. [ED 085 681]

This study determined the effectiveness of a rapid reading program in improving comprehension and rate of approximately 300 fifth and seventh grade students. Repeated measures analyses of variance were used to compare changes in rate and comprehension during an eight-week rapid reading program with three groups of students: those instructed by a rapid reading specialist, those instructed by their classroom teacher trained by the specialist, and a control group. Results indicated that reading rate of fifth graders significantly improved after instruction by either the specialist or the teacher. Comprehension of fifth and seventh graders did not increase significantly after instruction.

82. Holmes, Jack A.; Singer, Harry. Speed and Power of Reading in High School. Washington, D.C.: Office of Education (DHEW), 1966, 185p. [ED 038 257. HC not available from EDRS. Available from U.S. Government Printing Office (FS5.230:30016, $0.70)]

The major focus of this investigation was concerned with discovering differences in the substrata-factor patterns which underlie speed and/or power of reading in various known groups: boys versus girls, bright versus dull, fast versus slow readers, and powerful versus nonpowerful readers. Subjects were 211 boys and 189 girls selected at random from the summer school population of the University of California demonstration secondary school. The 54 independent variables consisted of group-administered paper and pencil tests selected or constructed for the purpose of assessing areas which might bear a meaningful relationship to the criteria. Main areas assessed for the independent variables included mental abilities, linguistic abilities, verbal perception, listening comprehension, music ability and appreciation, academic attitudes and habits, interests, emotional-social problems, and chronological age. A substrata-factor analysis, a centroid-factor analysis, and separate treatment of the total group were performed. Results indicated that while reading ability is a composite of speed and power, beyond certain basic skills, different students may draw upon different factors to achieve reading success. Charts, tables, appendixes, and references are included.

83. Maxwell, Martha J. Effects of Practice and Learning Strategies on Speed of Scanning for Phrases in Meaningful Material. Paper presented at the National Reading Conference, Atlanta, December 4-6, 1969, 14p. [ED 035 527. Document not available from EDRS. Available in Nineteenth Yearbook of the National Reading Conference]

This pilot study investigated (1) the extent scanning speed can be improved through practice, (2) the learning strategies students use in attempting to improve their scanning, and (3) differences between scanning rate for stimuli presented orally and visually. Subjects were advanced college students with average reading skills. Each subject was either auditorially or visually presented with one of three target phrases; then he was presented with 600-word passages with target phrases randomly embedded. Each subject was given 80 trials. The time required to find the target phrase and make the indicated response was recorded. At the end of each trial, the subjects reported the strategies they used. Trials in which the subject averaged .75 seconds per line or longer were scored as misses. All subjects tested improved their rate of scanning between initial and final sessions. No significant differences were found between scanning speeds and auditory and visual stimuli. Strategies used by students are listed. Diagrams, graphs, and references are included.

Word Recognition

84. Bailey, Mildred Hart. Utility of Vowel Digraph Generalizations in Grades One through Six. Paper presented at the Annual Meeting of the International Reading Association, Boston, April 24-27, 1968, 10p. [ED 019 203]

Some vowel digraph generalizations presently taught were investigated to determine the overall utility of the generalizations when applied to a list of representative words met by children in reading instruction in grades 1 through 6, to determine the utility of all possible subgroups of adjacent vowels, and to evolve new digraph generalizations applicable to large numbers of words. An overall utility of 33 percent was found when the original vowel digraph generalization was applied to a list of 506 words containing adjacent vowels. Four subgroups had a percentage of utility above 50 percent--"ai," "ea," "ee," and "oa." Two generalizations which were formulated and investigated yielded 72 and 92 percent of utility. The study concluded that children in grades 1 through 6 should improve in word analysis if they understand that when two vowels are together in a word, only one vowel sound is usually heard. More specific phonic generalizations should prove useful to the children who should know that vowel digraphs are usually affected by the consonants that follow. Care should be taken to help children develop flexibility in the use of all phonic generalizations. Tables and references are included.

85. Campbell, Bonnie; Quinn, Goldie. Phonetic Analysis of Words in Grades 3 and 4. Bellevue, Nebr.: Bellevue Public Schools, 1965, 27p. [ED 013 196]

These guidelines for teaching the phonetic analysis of words in grades three and four were developed at the Bellevue, Nebraska, public schools. All elements involved in the teaching of reading skills, including phonetic analysis, comprehension, and oral reading, are covered. The guide provides examples of checklists for comprehension skills and oral reading.

86. Campbell, Bonnie; Quinn, Goldie. Phonetic Analysis of Words in Grades 5 and 6. Bellevue, Nebr.: Bellevue Public Schools, 1965, 27p. [ED 013 194]

These guidelines were developed at the Bellevue, Nebraska, Public Schools to answer the requests of upper elementary teachers for information concerning the elements of the phonetic approach in the teaching of reading. The booklet includes not only those skills to be introduced for the first time at the fifth- and sixth-grade levels, but also skills which may need to be reviewed. Checklists for other reading skills, such as comprehension, oral reading, and study skills, are included.

87. Chambers, J. Richard. Utilizing Word Recognition Skills while Improving Deficiencies. Paper presented at the Annual Meeting of the International Reading Association, Anaheim, May 6-9, 1970, 19p. [ED 043 454]

This paper presents four possible alternative approaches for developing word recognition skills, including sample lesson plans for both primary and intermediate grades. The first emphasizes the importance of the relative order of difficulty of word analysis skills involving phonic abilities and auditory and visual discrimination in both primary and intermediate grades. The second program stresses the use of vocabulary selected from words in the child's speaking vocaublary. The third focuses on the inductive method of word recognition, and the fourth program emphasizes the importance of acquiring both an intensive and an extensive vocabulary. The lesson plans stress the aspects of phoneme identification, knowledge of homophones, word classifications, and awareness of multimeaning vocabulary. The plans utilize self-directing/self-correcting material, every-pupil response techniques, and team-learning organizational patterns. References are included.

88. Dunn, Mary K.; Harris, Larry A. Research on Elementary Reading: Word Recognition. ERIC/CRIER Reading Review Series, Vol. 2, Bibliography 17. Bloomington: University of Indiana, 1969, 119p. [ED 028 310]

Research on word recognition is listed in two sections: part 1, 1950 to the present, and part 2, 1900-1949. Citations in each section are alphabetized according to the author's last name and are followed by descriptive abstracts in part 1 and by brief annotations in part 2. In order to make this biliography helpful to users with varying concepts of word recognition, the compilers selected documents according to a broad definition which considers word recognition any means of attacking new or partly known words. Included are documents ranging from those which discuss innovative teaching orthographies. Source material was drawn from the seven basic references of the ERIC/CRIER document collection: "Published Research Literature in Reading, 1964-1966," "Published Research Literature in Reading, 1950-1963," "Published Research Literature in Reading, 1900-1949," "USOE-Sponsored Research on Reading," "Recent Doctoral Dissertation Research in Reading," "International Reading Association Conference Proceedings Reports on Elementary Reading," and "International Reading Association Conference Proceedings Reports on Secondary Reading."

89. Emans, Robert; Fisher, Gladys Mary. Teaching the Use of Context Clues. Elementary English 44 (March 1967): 243-246, 4p. [ED 040 984]

This study involved the development of exercises for teaching the use of context clues in word recognition. Although authorities believe that context clues are best used in combination with other methods of word identification, such as phonetic analysis and word

form, no hierarchy of difficulty among the many exercises for teaching context clues is known. Subsequently, to measure the degree of difficulty of six different word recognition techniques found in literature, students in grades 3-10 of 11 schools were given six different exercise forms. The results indicated that the more clues given a reader, the more easily he could identify a word. The easiest form provided phonetic and configuration clues with the context clues, while the most difficult form indicated only the omission of a word. Students, regardless of sex, intelligence, comprehension, or vocabulary and grade level, used the same clues to determine the suitable word. The exercises developed can also be used for teaching context clues in the classroom.

90. Hillerich, Robert L. Teaching about Vowels in Second Grade. Glenview, Ill.: Glenview Public Schools, 1969, 10p. [ED 036 402]

The usefulness of teaching vowel generalizations was studied using three treatment groups, with two second-grade classes in each treatment. The study was considered a pilot investigation to provide direction rather than a definitive research study. In treatment 1, the McKee Reading for Meaning Program was followed, including the teaching of all vowel lessons and accompanying workbook practice. In treatment 2, the sounds of long and short vowels were taught, using those lessons of the McKee program which teach on the hearing level only. No lessons in associating or using vowels were taught. Treatment 3 omitted all items pertaining to vowels and substituted lessons in interpretive skills and broad reading. Pretest scores on the Stroud Primary Reading Profiles, Level 1, were compared with posttest scores on Level 2 of the same test. The auditory discrimination subtest scores showed a dramatic, statistically significant gain for treatment 2, which was not true of the other treatments. Treatment 2 resulted in a significantly higher mean score for total reading than did treatments 1 or 3. Further research is suggested. Tables and references are included.

91. Hoyle, Anne M.; and others. Let's Teach Word Analysis Skills. Upper Marlboro, Md.: Prince George's County Board of Education, 1963, 56p. [ED 001 744]

This study presents a guide to the teaching of word analysis skills. Knowledge of word analysis alone does not ensure good reading ability. It should, however, enable the individual to become more independent in his reading. Skills developed through a knowledge of word analysis can do much to enhance the understanding of written material and to enable the student to become a more proficient reader. The study of word analysis is approached through an understanding of the principles involved in four major areas: (1) phonetic analysis or sound clues, (2) structural analysis or sight clues, (3) syllabification, and (4) accent. Teachers are urged to lead their pupils in discovering for themselves the rules, principles, or generalizations in each of these areas of analysis and in expressing the principles in their own words. The exact wording of a rule is not important if the meaning is clear to the children.

It is the understanding of the underlying principles of word analysis and the ability to apply these principles that make word analysis an invaluable tool in learning to read.

92. Johnson, Dale D. Factors Related to the Pronunciation of Vowel Clusters. Part II (of 3 parts). Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1970, 75p. [ED 049 911]

Children's pronunciations of vowel clusters in synthetic words were analyzed in relation to common English words containing the same vowel clusters. Subjects were 436 elementary students of both high and low reading levels from a suburban, an urban, and a rural community. Conclusions of the study, reported in part 2, were that (1) pronunciations more closely parallel common words as children progress through the grades; (2) sex differences are not significant; (3) better readers deviate less from correspondences in common words than do poorer readers; (4) suburban children tend to parallel more closely correspondences in common words than do urban and rural children; (5) principal pronunciations in word types relate more closely to children's pronunciations than do those in word tokens; and (6) contextual environment and word position seem to influence pronunciation. Discussion of the statement and rationale of the problem, the procedures for selecting vowel clusters, and the procedures of the study are given in part 1, ED 049 910. Appendixes are found in part 3, ED 049 912. Tables are included.

93. Karlin, Robert. A Three-Pronged Attack on Vocabulary Development. Paper presented at the Annual Meeting of the International Reading Association, Seattle, May 4-6, 1967, 16p. [ED 013 711]

Status studies of the relationship between vocabulary size and the extent of reading support the belief that more avid readers have richer vocabularies. However, studies of direct efforts to increase vocabulary through wide reading alone have not yielded satisfactory results. Hence, wide reading combined with direct and indirect approaches is recommended for a comprehensive program in vocabulary development. Suggested guidelines emphasize the use of individual weaknesses in determining the degree of involvement in vocabulary study, the study of words in context, the study of working rather than esoteric vocabularies, and the application of word learning. The use of contextual and structural clues, the study of word origins and multiple meanings, the study of word lists in relation to students' activities, and the use of programed materials are recommended to help students broaden and extend their vocabularies. References are included.

94. Karraker, R. J. Teaching Beginning Readers to Distinguish between Similar Letters of the Alphabet. Final Report. Kansas City, Mo.: University of Missouri, 1968, 44p. [ED 020 860]

Recent research on the discrimination process indicates that errorless learning can occur if stimuli are carefully programed so that

they are dissimilar and gradually become more similar as training proceeds. To assess this approach in teaching the lower-case letters B and D with kindergarten subjects, two sets of stimuli constituted the first experimental variable. In the progressive value of this variable, color, size, presence of prompts, and duration of presentation were progressively faded to the terminal discrimination. The second value of this variable was the terminal discrimination in the progressive stimuli--the B and D constant in the attributes of color, size, duration of presentation, and absence of prompts. The second variable was the time of introduction of the second letter. Two separate analyses of covariance revealed significant effects for the time variable, but not for the progressive-constant variable. The early-progressive combination resulted in 81 percent of the subjects learning the discrimination with under 10 percent errors. When subjects were categorized into same, mixed, or crossed lateral dominance, no differences in errors on the task were observed. The subjects who learned the discrimination without errors subsequently could not draw the letters. Fifty-five references are included.

95. King, Ethel M.; Muehl, Siegmar. Recent Research in Visual Discrimination--Implications for Beginning Reading. Paper presented at the Annual Meeting of the International Reading Association, Seattle, May 4-6, 1967, 15p. [ED 014 385]

An overview of the research on visual discrimination shows a trend from the whole-word view to a combination of letter-discrimination and the whole-word method. Ten studies cited in this article attempted to answer the following questions: (1) Would nonverbal stimuli facilitate reading performance? (2) Do children focus on the shape of the word or on individual letters within the word? (3) Is training with whole words more effective than training with isolated letters? (4) What skills transfer from these two types of training? (5) What is the most effective combination of cues for helping children learn sight words? and (6) Does knowledge of letter names affect letter-discrimination training? Some implications for beginning reading instruction based on this review of recent research suggest (1) that training in visual discrimination should begin with word and letter stimuli rather than with nonverbal graphic stimuli, (2) that the earliest visual discrimination exercise in kindergarten should use letter stimuli, and (3) that visual discrimination training should include exercises in associating sound and meaning with visual form. While these implications are based on the results of experiments, uncontrolled classroom studies would show whether or not they are feasible.

96. Mason, Evelyn. Suggested Activities for Developing and Reinforcing Word Analysis Skills in the Reading Program. 1968, 109p. [ED 028 039]

Teaching procedures for word analysis skills are described and followed by sample games and activities. The skills are listed in the following sequence: sight words; phonics (initial consonants,

medial and final consonants, blends, digraphs, short vowel sounds, syllabication related to short vowel position, short vowel compound words, long vowel sounds, applying vowel principles, diphthongs); structural analysis (prefixes, recognition of suffixes, endings, syllabication); and synonyms, antonyms, and homonyms. Suggestions for developing comprehension and interpretation skills and abilities are noted. Listings of commercial aids and teacher references are included after each skill section.

97. Mounger, Marion. Word Attack Skills and Perception--A Programmed Approach. Paper presented at the National Reading Conference, Tampa, December 1971, 16p. [ED 059 839. HC not available from EDRS. Available from National Reading Conference]

An instructional package was developed to help junior college students weak in word attack skills related to phonics and the ability to discriminate by the most efficient use of the auditory, visual, and analytical faculties. The programed package was designed to permit the student independence and privacy and to introduce a rapid and emotionally satisfying process for developing the needed skills. Habits and misconceptions regarding spelling and pronunciation observed in the behavior of the students were identified, together with other emotional dilemmas. Twenty generalizations and skills which individual students needed for more efficient word attack were selected. The objectives to be achieved were presented in the following order: accented syllable, unaccented syllable, syllabication, vowel digraphs and diphthongs, consonants and consonant blends, flexibility, and the dictionary. A pretest and posttest for each of the objectives was developed. It was recommended that the package be used with other informal and personal aids and especially with wide and continuous reading. References are included.

98. Reece, Thomas E.; and others. Suggestions for Developing Independent Word Attack in Reading, for Use in Basic Institute Meetings, Grades Three and Four. Los Angeles, Calif.: Los Angeles City Schools, 1958, 16p. [ED 018 346]

A guide for planning specific instruction for developing independent word attack presents the skills necessary for mastering sight vocabulary, word recognition, and the use of the dictionary. Specific definitions of terms and examples of teaching techniques with the sequence of instruction for the development of phonic and structural analysis skills are presented. A quick reference sheet outlining basic reading skills indicates the grade level for introducing them. Detailed steps for phonetic analysis are charted as a guide for testing and teaching.

99. Romer, Robert D. Teaching Reading in the Elementary School--Phonic and Other Word Perception Skills. Los Angeles, Calif.: Los Angeles City Schools, 1966, 129p. [ED 011 502]

A guide for teaching phonic and structural analysis and other word perception skills at the primer level through grade 6 provides definitions, examples, and suggestions for the teacher. Information is presented within six categories: (1) the total reading program, emphasizing word perception skills and techniques, language understandings, readiness, basic vocabulary, the teacher's role, and a balanced program, (2) phonic and structural analysis, including definitions of related terms. (3) suggested sequential development of phonic and structural analysis in chart form, (4) suggested sequential development of word recognition skills and generalizations with emphasis on level of introduction, (5) suggestions for introducing learning experiences and additional activities for rhyming words, initial consonants, final consonants, consonant digraphs and blends, long vowel sounds, vowel digraphs and variant sounds, and word structure, and (6) check sheets for evaluation of pupil progress from primer level through grade 6 level.

100. Samuels, S. Jay. Modes of Word Recognition. Paper presented at the Annual Meeting of the International Reading Association, Kansas City, April 30-May 3, 1969, 23p. [ED 032 194]

The strategies used by children in word recognition are examined. A critical review of some of the classical research which has influenced current thinking about how words are recognized is presented along with a discussion of some of the errors which can be found in these studies. A five-stage model of how beginning readers learn to recognize words is described as including unusual characteristics of words, word shape cues, phonics, context, and sight words. Contrasts are made among recent experimental findings concerning cues used in word recognition and some commonly held beliefs on the subject. Results of recent studies indicate that children prefer to use first letters, final letters, middle letters, and word shape (in that order of preference) as cues to word identification. Discrimination studies indicate that children select the easiest cue for word recognition and that initial training on a list of words with low discriminability which forces attention on all letters, in contrast to training on a word list of high discriminability, encourages the child to adopt a strategy which provides a better basis for transfer to learning new words. Although letter-name knowledge does not seem to have any beneficial effect on reading, there is evidence that letter-sound training does have a positive effect. A bibliography is included.

101. Sitkoff, Seymour; and others. Reading Skills, Grades Five and Six. Los Angeles, Calif.: Los Angeles City Schools, 1962, 60p. [ED 018 353]

This bulletin was prepared for teachers as a convenient reference to the word recognition skills relating to phonetic analysis, structural analysis, comprehension, and vocabulary building for the reading program for grades 5 and 6. It may also serve as a checklist for the teaching of these skills. The sources of reference

are the teacher's editions for the California basic readers which are the Allyn and Bacon and the Ginn series. The locally prepared instructional guide, "Phonics and Other Word Perception Skills, K-6," is referred to as well. The skills are arranged in outline form. The paged references indicate the placement of the skills in the teacher's editions, the textbooks for the pupils, and the instructional guide, "Phonics and Other Word Recognition Skills."

102. Smith, Nila Banton. Strategies for Improving the Teaching of Decoding Skills. Paper presented at the Annual Meeting of the International Reading Association, Anaheim, May 6-9, 1970, 23p. [ED 043 468]

After a discussion of the code-emphasis versus phonics-emphasis controversy, strategies for improving the teaching of decoding skills are presented. It is recommended (1) that only those phonic generalizations that are of high utility be taught, and revisions of phonics generalizations be made to make them even more inclusive and useful; (2) that auditory and visual discrimination be stressed early and throughout the grades, with particular emphasis on letters of the alphabet, phonic elements, and word recognition skills; (3) that greater use be made of context clues and analysis of word structure; and (4) that strategies for working with dictionaries should focus on teaching the schwa sound and having smaller sets of different dictionaries available in the classroom. Technologically assisted instructional innovations used in reading instruction are briefly discussed, including the talking typewriter, teaching machines, and the computer. Two linguistic viewpoints, the regular spelling approach and the structural linquistics approach, as they relate to decoding, are also described. A bibliography is included.

103. Upchurch, Winifred Brook. The Relationship between Perceptual-Motor Skills and Word Recognition Achievement at the Kindergarten Level. Ph.D. Dissertation, Syracuse University, 1971, 71p. [ED 071 021. Document not available from EDRS. Available from University Microfilms (Order No. 72-6638)]

The purpose of this study was to examine the extent to which a preassessment of motor development and perceptual skills predicts achievement in word recognition for kindergarten children. The instruments used for evaluation were the Lincoln-Oseretsky Motor Development Scale, Thrustone's Identical Forms Test, Wepman Auditory Discrimination Test, the S.R.A. Primary Mental Abilities Test, Hollingshead's Index of Social Position, and an author-developed word recognition test. The study was designed to test the following hypotheses: (1) there is a positive relationship between motor control scores and achievement in word recognition; (2) there is a positive relationship between visual discrimination and achievement in word recognition; (3) there is a positive relationship between auditory discrimination and achievement in word recognition; and (4) motor control scores included in a step-wise multiple regression with visual discrimination and auditory discrimination will provide

a more effective prediction of word recognition than the combination of visual and auditory discrimination. The findings of the study support all major hypotheses and the premise that auditory discrimination skills are positively related to success in reading.

104. Venezky, Richard L. Letter-Sound Generalizations as Predictors of Reading Ability in Israeli Children. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1973, 16p. [ED 082 144]

This study, sponsored by the National Institute of Education, investigated the relationship between letter-sound ability and general reading ability in Israeli Hebrew and explored the value of letter-sound ability as a predictor of later reading success. The subjects were 130 children in primary classes in two Israeli public schools differentiated by socioeconomic status (SES). Stimuli were 31 synthetic Hebrew words. Each child was tested individually on his reading of the list of words. One year later a standardized reading test was administered to all subjects. The results showed a significantly high correlation of letter-sound ability with later reading success for middle SES children first tested in grade 1, but insignificant correlations for middle SES children thereafter. In the lower SES school, the highest correlation was achieved in grade 2, indicating a one-year lag behind the middle SES school. Letter-sound ability appears to be a good predictor of later reading success when children have just mastered the basic mechanics of the reading process; however, when this beginning phase is ended, the predictive power of letter-sound ability decreases.

105. Venezky, Richard L.; and others. The Development of Letter-Sound Generalizations from Second through Sixth Grade. Technical Report. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1972, 26p. [ED 073 443]

The purpose of this study, which was sponsored by the USOE Bureau of Research, was to determine the development of four specific letter-sound patterns from second through sixth grade: invariant consonants, long and short vowels, "c," and "g." A 69-item list was presented to second-, fourth-, and sixth-grade subjects in one of two random orders. Oral responses were tape recorded, transcribed by graduate students trained in phonics, and coded as correct, plausible, or incorrect. Separate analyses of variance were run on each of the four pattern categories. Some of the results indicated that although ability to generalize each of the four patterns increased from second through sixth grade, there were striking differences in the acquisition of the patterns. At the second- and, to a lesser degree, the fourth-grade levels, there was little difference in ability between the best and worst readers to generalize invariant consonant correspondences when the letters occurred in initial position, but large differences were evident for medial and final positions, with the poorer readers showing the least ability. For the "c" patterns, learning of the correct

pronunciation for "c" before "e," "i," or "y" occurred slowly and failed to reach 60 percent by sixth grade. For the "c" pronounced as /s/ pattern the correct responses were high at all grades.

106. Webber, Margaret Sharp. Prediction of Word Recognition Deficits from Articulation and Auditory Discrimination Ability at Time of First-Grade Entrance. Ed.D. Dissertation, Temple University, 1972, 92p. [ED 072 399. Document not available from EDRS. Available from University Microfilms (Order No. 72-20, 220)]

The purposes of this study were to determine (1) if it is possible to predict which children will develop word recognition deficits based on levels of articulation proficiency and auditory discrimination ability; (2) the effect of two different instructional approaches for beginning reading, phonics, and whole-word approach; and (3) if first-grade children who misarticulate have less well developed auditory discrimination ability than children with correct articulation. The subjects, all of the children enrolled in grade one in a rural Pennsylvania area, were grouped according to articulation and auditory discrimination ability. The SRA, Primary Mental Abilities, K-1; the Templin-Darley Tests of Articulation, Screening Form; the MacDonald Deep Test of Articulation; and the Wepman Test of Auditory Discrimination were administered during the first two months of the academic year. The Daniels' Word Recognition Lists, forms A and B, level one, and the Temple Informal Reading Inventory, Form A, level one, oral selection, were administered late in the spring term. The results indicated that it is possible to predict which children will develop word recognition deficits in grade one based on articulation proficiency and auditory discrimination ability.

107. Wilder, Larry; Levin, Joel R. A Developmental Study of Pronouncing Responses in the Discrimination Learning of Words and Pictures. Technical Report. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1971, 14p. [ED 073 444]

Subjects at three age levels were administered picture pair or word pair discrimination lists. They pronounced or pointed as a method of choice, and they pronounced or pointed at the correct item (or remained silent) during rehearsal. The results indicated that with picture pairs, pronunciation facilitated learning as a method of choice and a type of rehearsal in nursery school subjects. For fifth-grade and college subjects, there was no significant difference between pronouncing and pointing as a method of choice. Spoken rehearsal was superior to control performance for the fifth-grade subjects. College subjects performed equally well in the control and pronouncing conditions, but pointing during rehearsal produced significantly more errors than pronouncing. Word pairs produced no significant pronunciation effects. The verbal stimuli tend to elicit emplicit pronouncing responses sooner than the nonverbal stimuli. These results were discussed within an internalization of speech perspective. This study was sponsored by the USOE Bureau of Research.

108. Wilder, Larry; Norton, Richard W. Pronouncing as a Method of Choice in Verbal Discrimination Learning. Technical Report. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1972, 11p. [ED 074 464]

Sixty college subjects were administered low frequency verbal discrimination lists under the conditions of pronouncing versus button pressing as a method of choice. There were sixteen word pairs in each list, and the words were three- and fourletter low frequency words selected from the Thorndike-Lorge tables. Four random orders of the pairs were constructed for each list, those four orders being presented for Trials 1 through 4, repeated for Trials 5 through 8, etc. The lists were presented on a Stowe memory drum. Each pair was presented twice in a row at a 2:2-second rate. Ten subjects received one of the two lists, and ten other subjects received the other list within each condition. The three conditions differed only in their method of choosing the correct item during anticipation. Some of the results indicated that the mean sum of errors for the groups that pronounced their choice was lower than the mean sum of errors for the groups that pressed a button to indicate their choice or verbalized the position of their choice. Also, the groups that pronounced their choice required fewer trials to criterion. These differences were not statistically reliable. This study was sponsored by the USOE Bureau of Research.

109. Williams, Joanna P. Effects of Discrimination and Reproduction Training on Ability to Discriminate Letter-Like Forms. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, February 6-10, 1968, 8p. [ED 017 418]

The effectiveness of two training methods to focus attention on the critical features of letter-like forms was studied. Subjects were 32 kindergarten pupils. Six nonsymetrical, standard letter-like forms and four transformations, consisting of right-left and up-down reversals, 180 degrees and 90 degrees rotation, were used as stimuli to learning. Visual memory as an approximation of the perceptual tasks in reading was used with three groups for discrimination training. A fourth group received reproduction training requiring the tracing and copying of each standard form. Analyses of performance on three tests indicated that reproduction was not as effective as discrimination with transformations. The right left reversal was the most difficult of the four transformations. Training involving the comparison of letters with their transformations was suggested for kindergarten pupils. Tables are included.

Phonemes-Graphemes

110. Berdiansky, Betty; and others. Spelling-Sound Relations and Primary Form-Class Descriptions for Speech-Comprehension Vocabularies of

6-9 Year Olds. Inglewood, Calif.: Southwest Regional Educational Laboratory, 1969, 87p. [ED 030 109. Document not available from EDRS. Available from Southwest Regional Laboratory for Educational Research and Development]

A well-organized set of phonics rules will enable the reader to identify many words which are in his vocabulary, but which he has not encountered before in print. The rules must be sequenced in a manner that capitalizes on their applicability to the vocabulary of the typical reader. This can be achieved only when the rule set is defined on a properly delimited set of lexicon items. The work done in this project produced a vocabulary set containing approximately 9000 words (mostly base words). About two-thirds of this total consisted of the one- and two-syllable words that served as the data base for developing the spelling-to-sound correspondence rules. In effect, this would indicate that, in spite of its limited scope, the project has developed vocabulary and phonics information which can serve as a good starting information base for reading instruction programs in the early grades. This document describes the project and its results in detail. Its sections include (1) background and rationale, (2) selection and organization of vocabulary words, (3) correspondence rules and a pronunciation key for the phonetic symbols used, (4) description of the printouts, tables, and lists containing the vocabulary-rules data and an explanation of their use, and (5) rule-frequency tables and lists of particular printout data. The printouts are contained in ten separate books. This study was sponsored by the USOE Bureau of Research.

111. Campbell, Evelyn C. Mastering Decoding Skills: English, Reading. Miami, Fla.: Dade County Public Schools, 1971, 36p. [ED 061 014]

This course is designed (1) to assist high school students who have not achieved mastery of decoding skills in relating phonemes to graphemes and sequences of graphemes representing these phonemes; (2) to deal systematically with the basic word pattern of English; and (3) to analyze the structure of word pairing, morphology, roots, prefixes, suffixes, and derived inflectional forms. Additional emphasis is given to instruction in the use of redundancies available in syntactic structures toward analysis and identification of previously unknown words, and to verify meanings as they are modified by context, including punctuation. Besides these phonetic, structural, and contextual analyses, dictionary use and enrichment activities are also important aspects in the course design. The course rationale, program principles and procedures, teaching strategies with respect to each approach, and assessment procedures are described. Resource materials are listed separately under student resources and teacher resources.

112. Hodges, Richard E. A Study of Phoneme-Grapheme Correspondence in Monosyllabic Words. Paper presented at the Annual Meeting of the International Reading Association, Seattle, May 4-6, 1967, 16p. [ED 012 220]

The spellings of all monosyllabic words in the core vocabulary of American English were analyzed to determine the degree of correspondence between a phoneme and a single graphemic representation in this set of words. A phonemic classification was devised, and computer technology was used to analyze the phoneme-grapheme correspondence of these words in two ways: (1) the spelling of a given phoneme any place in monosyllabic words, and (2) the spelling of a given phoneme in initial, medial, and final position in monosyllabic words. Spellings of each phoneme were rank-ordered to determine the odds that a given phoneme would be represented by a particular graphic symbol at least 80 percent of the time in the words studied. The phonemes largely responsible for the orthography's failure to approximate the alphabetic principle in monosyllabic words are the long vowel phonemes and certain diphthongs. Knowledge of consonant and short vowel phonemes can help children understand the nature of orthography and apply this knowledge to spelling. Although educational implications are suggested, the study is fundamentally a description of the alphabetic nature of the orthography of American English words.

113. Kravitz, Ida. A Program of Beginning Sounds for the Young Child. Philadelphia, Pa.: Philadelphia Public Schools, 1964, 6p. [ED 001 609]

The experientially poor child who has heard little adult conversation directed at and for him is ill-prepared for beginning reading. His learning activities should be planned to include experience, real and/or vicarious. Before he is involved with the symbolic representation of the spoken or written word, the child should have developed strong listening habits and have gained the ability to hear gross and fine likenesses and differences. He should have also developed visual acuity to the point of seeing gross and fine likenesses and differences. A program compensating the experientially poor child should provide auditory and visual readiness, stressing beginning sounds and using objects and pictures. By the end of the program (the end of the kindergarten year), the child should be familiar with the sounds of the initial consonants and should recognize the letter names belonging to them. At no time should isolated initial consonants be taught. The sound should be attached to a spoken word. Instructions should begin with the easiest sound for a child to produce, "M." From there, instruction should proceed to the explosives "P," "B," "T," "D," and then to other consonants. Teaching the "M" sound should begin with having the children watch the teacher form "M" with her lips, while holding up an object starting with "M." The children would then repeat her procedure while at the same time holding up the object she showed them. The process should then be repeated using pictures. Specific suggestions for introducing other sounds are listed.

114. Marcus, Albert. Reading as Reasoning; Reading as Ambiguity: Understanding Sentence Structures. Paper presented at the Annual Meeting of the National Council of Teachers of English, Las Vegas, November 25-27, 1971, 16p. [ED 086 950]

If in reading a sentence a reader finds something unfamiliar in lexical meaning or grammatical structures, the meaning of the written material may be ambiguous to him. Sometimes the context will help to clarify the meaning of an unfamiliar element, but often it won't. Understanding what is read involves not only the process of reasoning but also the process of eliminating ambiguity. In this study of students' comprehension of sentence structure, it was found that many intermediate grade students (grades 5-8) had difficulty recognizing sentence transformations with equivalent meanings. They also had difficulty recognizing the kernel sentences of larger sentences. The study indicated that there was a wide range in the abilities of the students to recognize sentence transformation with equivalent meanings and kernel sentences of larger sentences. A teacher can help students increase their understanding of sentence structures by exploring with them the various ways in which the same concept can be stated. Teaching the equivalency of one structure to another can be used as a basic method of expanding students' understanding of the literal meaning of various types of sentence structures--whether the structures are infrequently used, highly complicated, nonstandard, or ambiguous standard English sentences.

115. Moretz, Sara Anne. Relationships of Spelling, Reading and Knowledge of Graphemic Options. Ph.D. Dissertation, The Florida State University, 1971, 126p. [ED 067 666. Document not available from EDRS. Available from University Microfilms (Order No. 72-21, 324)]

The purpose of this study was to determine (1) third- and fifth-grade pupils' relative knowledge of certain graphemic options used in American English orthography to represent selected phonemes presented in "new words," i.e., nonsense words, pronounced orally, and (2) the relationships between this knowledge and the pupils' reading and spelling achievement. A Graphemic Options Test (GOT) was developed which contains 40 items, each consisting of a nonsense word pronounced by the examiner and four corresponding graphic nonsense forms appearing on the students' answer sheets. Students responded by crossing out the one graphic form not representing the "word" pronounced. Third-grade pupils (202) achieved a mean raw score of 18.6 on the GOT as compared to a mean raw score of 24.4 by fifth-grade pupils (225). Significant correlations were found between each achievement area (spelling, reading, vocabulary, reading comprehension, and total reading) and GOT scores at each grade level. Among the conclusions drawn were that (1) knowledge of graphemic options is developmental in nature through the fifth-grade level, and (2) there is a positive and significant relationship between third- and fifth-grade pupils' knowledge of the ways sounds are spelled and their reading and spelling achievement.

116. Pezdek, Kathy; Royer, James M. The Role of Comprehension in Learning Concrete and Abstract Sentences. Amherst: University of Massachusetts, Department of Psychology, Cognitive Processes Laboratory, 1972, 36p. [ED 074 443]

A previous study by Begg and Pavio found that subjects presented with concrete sentences were able to detect subsequent changes in meaning better than changes in wording. In contrast, with abstract sentences, wording changes were detected with greater facility than were changes in meaning. The present study assesses the effect of comprehension on the recognition of meaning and wording changes with concrete and abstract sentences. Part of a group of 120 undergraduates at the University of Massachusetts was presented with sentences embedded in a context paragraph designed to increase comprehension. Results indicated that recognition for meaning changes in abstract sentences was significantly higher for the sentence-embedded group than for the group presented the sentences without the paragraphs. There was no appreciable difference between the groups in recognition of wording changes in abstract sentences or of both meaning and wording changes in concrete sentences. The results are discussed in light of recent models which propose different storage mechanisms for concrete and abstract sentences. Appendixes illustrating wording and meanings test sentences, contextual material presented to the experimental treatment group, and tables of analysis of variance are also provided.

117. Ruddell, Robert B. The Effect of Four Programs of Reading Instruction with Varying Emphasis on the Regularity of Grapheme-Phoneme Correspondences and the Relation of Language Structure to Meaning on Achievement in First Grade Reading. Berkeley: University of California, 1965, 194p. [ED 003 820]

The primary objective of the study was to investigate the effect upon word recognition and reading comprehension skills of four reading programs. These programs varied in (1) the degree of regularity of grapheme-phoneme correspondences programed into the vocabulary presented, and (2) the emphasis on language structure as related to meaning. Four exploratory questions were developed to study the relationship between the independent background variables of mental age, socioeconomic status, sex, and chronological age and the dependent variables of word recognition and reading comprehension. Students from 24 first-grade classrooms were given two existing reading programs and two programs developed to meet the specific needs of this study. It was concluded that the first-grade reading programs possessing a high degree of consistency in grapheme-phoneme correspondences produced significantly higher (1) word reading, (2) word study drills, and (3) regular word identification achievement than those programs offering little provision for consistent correspondences. The need for more carefully designed longitudinal reading research studies was discussed.

118. Smith, Lewis B.; Morgan, Glen D. Cassette Tape Recording as a Primary Method in the Development of Early Reading Material. 1973, 16p. [ED 083 544]

Communication Skills Through Authorship (CSTA) is an initial and early reading program designed to complement any basal reading plan and based on the premise that a child will learn best to read what

is important to him personally. Begun in Idaho schools in 1969-70, the program encourages each student to tape record many impressions, stories, or experiences which he considers meaningful. Typed copies are returned to the child and become his personalized reader. He may choose to share his story with his teacher, his peers, or simply read it to himself. In 1971-72, district-wide implementation of the program began in grades one and two with a similar district serving as a control group. Experimental first graders significantly outscored the control students on the Stanford Achievement Test. No significant differences were found in achievement between second grade groups or in reading attitude and self-esteem for either group at both grade levels. Seventy-eight percent of the participating teachers expressed a strong desire to continue the program, and most indicated a decline in their preference for the basal approach and an increase in their preference for individualized and language experience approaches. A more complete program description and other findings are included in the document.

119. Vandever, Thomas R. The Contribution of Phoneme-Grapheme Consistency and Cue Emphasis to Decoding in First Graders. Nashville, Tenn.: George Peabody College for Teachers, Institute on Mental Retardation and Intellectual Development, 1971, 29p. [ED 061 017]

The purposes of this study were to assess the effect of phoneme-grapheme consistency (PGC) and cue emphasis (CE) on the development of decoding skills in first graders and to determine the relationship of consistency of original lists to the recognition of new words. Subjects were 162 first graders, mean age 6.11 years and scoring above 30 on the Metropolitan Readiness Test, randomly assigned to 18 treatment groups. Original word lists and recognition new word lists were developed for both high-PGC and low PGC words. Subjects learned one list of eight words on each of three consecutive days. While all subjects learned words with all the CE methods, half the groups learned consistent words, and the other half learned inconsistent words. At the end of the last session, all subjects were given the recognition new word lists to assess their ability to decode these words. It was found that (1) there were no differences in the number of words recognized by high- and low PGC groups for the first two days, but by the third day the high-PGC groups recognized more words; (2) subjects recognized more auditory-CE words than visual- or kinesthetic-CE words; and (3) PGC of original lists did not affect the number of words recognized. Tables, figures, and references are included.

120. Venezky, Richard L.; Johnson, Dale. The Development of Two Letter-Sound Patterns in Grades 1-3. Report from the Project on Basic Prereading Skills. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1972, 14p. [ED 070 070]

Tests for four letter-sound generalizations--"c" pronounced as [k] or [s] and "a" pronounced as [ae] or [e]--were given to 73 first, second, and third graders at six-week intervals during a single school year. Each test included five synthetic words (e.g., cipe,

acim, bice, cib, ocet) for each generalization. Children responded individually to the test items by attempting to pronounce each one aloud. The long and short pronunciations of "a" ([e] and [ae]) and the [k] pronunciation of "c" were learned to a high degree of accuracy. They showed no significant differences across grade levels, but did differ significantly across ability groups. For "c" pronounced as [s], however, learning was extremely low at all grade levels and reached only 45 percent correct by the end of grade 3. Initial "c" as [s] was learned more slowly than medial "c" as [s], indicating an interaction between letter pattern and word position. The failure to acquire the "c" pronounced as [s] pattern, especially in word-initial position, appears to result primarily from the failure of most beginning reading texts to include a sufficient sampling of words which begin with "c" before "e," "i," or "y."

121. Venezky, Richard L.; Weir, Ruth H. A Study of Selected Spelling-to-Sound Correspondence Patterns. Stanford, Calif. Stanford University, 1966, 95p. [ED 010 843]

A linguistic model was developed for relating spelling to sound and for exploring those facets of English orthography which might relate to the reading process. A detailed analysis of the basis of the orthography was made which included discussions of the grapheme-phoneme parallel, relational units, markers, and graphemic alternations. Revisions and extensions were made to formulate this ideal system for translating from spelling to sound, based on an original group of 20,000 words. Tentative implications pointed to the possibility of teaching various pronunciations not by the simple-sequence method where variant pronunciations are presented sequentially, but by offering all the different pronunciations at once, working with pairs of words which show the different pronunciations. It was felt that the potential generalization derived from this differentiation approach should effect better results than the simple-sequence method.

122. Venezky, Richard L.; and others. The Development of Letter-Sound Generalizations from Second through Sixth Grade. Technical Report. Report from the Project on Reading and Related Language Arts Basic Prereading Skills: Identification and Improvement. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1972, 26p. [ED 073 443]

The purpose of this study was to determine the development of four specific letter-sound patterns from second through sixth grade: invariant consonants, long and short vowels, "c" and "g." A 69-item list was presented to second, fourth, and sixth graders in one of two random orders. Oral responses were tape recorded, transcribed by graduate students trained in phonics, and coded as correct, plausible, or incorrect. Separate analyses of variance were run on each of the four pattern categories. Some of the results indicated that although ability to generalize each of the four patterns increased from second through sixth grade, there were

striking differences in the acquisition of the patterns. At the second- and, to a lesser degree, the fourth-grade levels, there was little difference in ability between the best and worst readers to generalize invariant consonant correspondences when the letters occurred in initial position, but large differences were evident for medial and final positions, with the poorer readers showing the least ability. For the "c" patterns, learning of the correct pronunciation for "c" before "e," "i," or "y" occurred slowly and failed to reach 60 percent by sixth grade. For the "c" pronounced as /s/ pattern the correct responses were high at all grades.

Syntax

123. Chomsky, Carol. Linguistic Development in Children from 6 to 10. Final Report. Cambridge, Mass.: Radcliffe Institute, June 1971, 156p. [ED 059 196]

Language acquisition in children, ages 6 to 10 years, and their linguistic competence with respect to complex aspects of English syntax are studied. The nature of specific disparities between adult and child grammar are discussed, and the gradual reduction of these disparities as the children's knowledge of language increases is traced. In all, 36 children are tested by means of psycholinguistic experiments for knowledge of 8 complex syntactic structures; 5 of the structures prove to be acquired in sequence, revealing 5 developmental stages in syntax acquisition. Of particular interest is the regular order of acquisition of structures, accompanied by considerable variation in rate of acquisition. The range of ages at each linguistic stage is considerable. The children's exposure to written language as complex language inputs is examined in relation to linguistic development rate. Reading background and current reading activity are surveyed through interviews with both children and parents and through daily records of the children's reading (and listening) over a one-week period. Information is given on amount and complexity of independent reading and listening, background in children's literature, and recall and recognition of books. Lists of books read and named are included. A formula was developed and applied to 150 books and magazines reported to judge reading complexity levels. Methods are assessed, and relationships discussed. Results show a strong correlation between reading exposure measures and language development. This study was sponsored by the USOE Bureau of Research.

124. Hatch, Evelyn. Four Experimental Studies in Syntax of Young Children. Inglewood, Calif.: Soughwest Regional Educational Laboratory, 1969, 109p. [ED 039 250]

This document reports an investigation of the developmental changes in the use of certain syntactic structures by white, monolingual, middle-class five and seven year olds, and of the differences between the syntax of young children and that used in beginning

reading textbooks. Approximately half of the publication presents the methods and results of four separately designed experiments: (1) mass and count noun responses of young children, (2) pronoun case preference of young children, (3) comprehension of time connectives by young children, and (4) comprehension of conditional structures by young children. Other findings reported are that, in the presentation of syntactic structures, reading books followed neither a pedagogically determined sequence nor one which paralleled the child's language development. It is recommended that new structures be systematically introduced orally, but that they not be presented in the reading texts until the child can understand and use them. Included are statistical tables, a list of references, and results of other relevant studies. This study was sponsored by USOE.

125. Hatch, Evelyn. The Syntax of Four Reading Programs Compared with Language Development of Children. Inglewood, Calif.: Southwest Regional Educational Laboratory, 1969, 41p. [ED 045 290. Document not available from EDRS. Available from Southwest Regional Laboratory for Educational Research and Development]

The beginning reading progress of children may be linked to sentence structures used in reading textbooks and the syntax of the child's oral language. An investigation was made of the preprimers and primers of three major publishing companies and of Southwest Regional Laboratory for Educational Research and Development (SWRL) reading programs to compare written textbook patterns and child speech patterns, based on the presumption that the closer the former approximates the latter the more the child will be able to use his acquired language knowledge for learning to read. To compare oral language and textbook language, a number of research studies on children's oral language were utilized. The comparison revealed a disparity between these aspects of language, although there seemed to be an increased usage of realistic forms of sentence structure in the reading books under investigation. Some of the problem areas indicated were (1) reversed order forms, (2) time connectives, (3) sequence of tenses, and (4) complex sentences. Much research remains to be done before a full understanding of the effects of the child's language patterns on his comprehension of reading material is to be had. Eleven tables and a bibliography are included. The study was sponsored by USOE.

126. Hood, Joyce E.; and others. An Analysis of Oral Reading Behavior of Reflective and Impulsive Beginning Readers. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, February 26-March 1, 1973, 21p. [ED 078 376]

This study investigated whether the number of oral reading miscues differs for reflective and impulsive children, whether the proportion of miscues that are semantically appropriate, syntactically appropriate, or graphically similar differ for the two groups, and whether the two groups differ in their self-correction behavior as it relates to these three cue sources. The subjects were 79

children in four first grade classes. The Matching Familiar Figures Test was administered and scored by determining the average time to the first selection of a response and the total number of errors. Each child whose average response time was above the group median and whose number of errors was below the group median was classified as reflective. Each child whose average response time was below the group median and whose number of errors was above the group median was termed impulsive. The results indicated that the reflective children made fewer miscues that differed from the text and fewer miscues of the most numerous category, word recognition. The reflective children self-corrected a greater proportion of their word-substitution miscues, specifically when their miscues were semantically inappropriate to the text and when they were syntactically inappropriate to the following portion of the sentence.

127. Mayes, Beatrice H. A Study of the Experimentalist Beliefs and Open-Mindedness of Teachers of First Grade Reading. MA Thesis, Rutgers, The State University of New Jersey, 1972, 98p. [ED 072 416]

This study investigates the degree to which the beliefs of teachers of the DISTAR reading program are the same as the beliefs of teachers of basal reader programs. The content of teacher beliefs is investigated in regard to the extent of agreement or disagreement with experimentalism. The structure of teacher beliefs is investigated in terms of the degree of open-mindedness of the teachers. Teacher educational beliefs, teacher philosophic beliefs, and the degree of open-mindedness of the two groups of teachers are compared on the basis of inventory scores on the Mann-Whitney U Test. The study finds no significant differences in educational beliefs, philosophic beliefs, or open-mindedness between the two groups of teachers. An ranking of high, medium, and low scorers on the three inventories shows that there is a tendency for high scorers in philosophic beliefs, as opposed to high scorers in educational beliefs, to be more numerous in the experimentalist beliefs profiles. There is also a tendency for the DISTAR teachers in this study to score higher than basal reader teachers in educational beliefs and in their degree of open-mindedness.

128. Nurss, Joanne R. Children's Reading--Syntactic Structure and Comprehension Difficulty. Final Report. New York: Columbia University Teachers College, 1966, 20p. [ED 011 975]

The concern of this study was the effect of sentences of varying structural complexity on primary grade children's oral reading, silent reading, and listening comprehension. The author prepared 36 one-sentence "stories" which varied in structural complexity as assessed by the depth hypothesis of structural depth (Yngve, 1960), sector analysis of structural depth (Allen, 1964), and traditional structural organization. One-half of the sentences represented different degrees of structural depth, and the other half, different types of structural organization. The structural organization sentences were ranked as complex, compound, and simple as defined

by traditional grammar. All sentences were designed with the same interest and difficulty level and were approximately the same length. The subjects were 144 second-grade children, either screened by a vocabulary test or selected without the test. The sentence "stories" were experimentally rotated over the three tasks of oral reading, silent reading, and listening comprehension. Comprehension of each sentence was measured by a picture-comprehension test and an evaluation of oral-reading scores. The hypothesis that sentences of greater structural depth would be more difficult for children to read was partially supported by the oral-reading error data, but not by the picture-comprehension data. The hypothesis that sentences of more complex structural organization would be more difficult to read was not supported by either measure.

129. Shilkret, Robert; Wiener, Morton. The Contribution of Syntactic and Para-Syntactic Cues in the Comprehension of Spoken and Written Language. Final Report. Worcester, Mass.: Clark University, 1972, 89p. [ED 064 273]

Two studies were conducted with English speakers to investigate (1) the facilitative effects of melodic features of speech, and (2) whether poor readers (without evidence of sensory defect) show a greater impairment than good readers when melodic features are made unavailable in the speech input. It was hypothesized that when melodic cues are not available, sentences of high syntactic complexity are harder to process than sentences of lower syntactic complexity. A modification of the Savin and Perchonock (1965) "overflow" procedure was employed. An auditory verbal stimulus was presented, followed by a digit list. The subject was asked on each trial to recall both sentence and digits. Half of the sentences had melodic features. Subjects were 40 fourth-grade children randomly assigned to sentence type groups. There were 25 trials per subject. Results showed (1) melodic cues facilitated processing for regular sentences, and (2) these cues were relatively more important for sentences of greater complexity. In a second study, it was hypothesized that selected poor readers would have greater difficulty than normal readers in processing spoken language when melodic features were absent. A modification of the method used in the first study was used. Poor readers had greater difficulty in processing all stimulus types. Serendipitous findings suggest that standardized group-administered reading and intelligence tests are confounded measures.

Associative Learning

130. Ehri, Linnea C.; Richardson, Dana. Antonym Adjective Contexts and the Facilitation of Noun Pair Learning in Children. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, April 1972, 16p. [ED 062 088]

Second and sixth graders were asked to learn noun pairs linked by various types of verbal connectives: verbs, unmarked and marked comparative adjectives, polar antonym adjective pairs, and conjunctions. Results indicated that all contexts produced better learning than conjunctions, that comparative adjective effects were superior to the polar-pair condition which consisted of conjoined noun phrases. Also, in all conditions, first- and final-position nouns were found to prompt equivalent recall. It was concluded that results provide compelling evidence for the operation of adjective structures as mnemonic organizers in younger as well as older children and that they challenge imagistic accounts of the verb facilitation effect. Tables and a bibliography are included.

131. McConkie, George W.; Rayner, Keith. The Span of the Effective Stimulus during Fixations in Reading. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, February 26-March 1, 1973, 12p. [ED 083 579]

This study investigated the effect of two classes of variables on a person's performance: the size of the window within which normal text was displayed and the type of information present in the display beyond the boundaries of the window. Six junior and senior high school students, identified as being among the best readers in their school, were used as subjects. Each subject read sixteen 500-word passages taken from a high school psychology text. Each passage was divided into six pages, displayed a page at a time, double-spaced, for the reader. Six mutilated versions of the passages were also prepared. For two of these versions each letter or number was replaced with an X. For two versions each letter or number was replaced with a letter or number which tended to be visually confusable with it. In the final two versions each letter or number was replaced with a letter or number not usually confused with it. Eight window sizes were used: 13, 17, 21, 25, 31, 37, 45, or 100 character positions on the line fixated. Results indicated that there is a clear effect due to window size. Reducing the window to thirteen characters increases the fixation duration by 30 percent, decreases the saccades by 26 percent, and increases reading time by 60 percent, as compared to a window size of 100 character spaces.

132. Muller, Douglas G. A Paired-Associates Analysis of Reading Acquisition. Paper presented at the Annual Meeting of the American Educational Research Association, Minneapolis, March 2-6, 1970, 36p. [ED 040 817]

A major objective of this study was to seek the relationship of principles derived from traditional paired-associates transfer experiments as applied to the reading task. In this experiment ten subjects from upper-division education courses, all volunteers, received various types of preliminary training with letter stimuli; then all subjects learned a word reading task and a sentence reading task. The letters, words, and sentences were graphically, as well

as aurally, meaningless. The results of this experiment indicated that transfer phenomena in stimulus-compound paradigms were generally consistent with phenomena in more conventional paridigms. This implies, says the author, that a generalized theory of transfer of associative learning is feasible and that this theory could be instrumental in the development of more efficient methods of reading instruction. Further research is recommended. References are included.

133. Otto, Wayne; Cooper, Carin. Investigations of the Role of Selected Cues in Children's Paired-Associate Learning. Report from the Reading Project. Madison: University of Wisconsin Research and Development Center for Cognitive Learning, 1968, 24p. [ED 036 315]

These four studies in a series deal with good and poor readers' utilization of selected cues in paired-associate learning. Specific cues considered were color, order of presentation, and verbal mediators. Answers to two basic questions were sought: (1) Do the selected cues have a facilitative effect upon children's paired-associate learning? (2) Is the learning of good and poor readers affected differently by the additional cues? For the 72 elementary school subjects in the study, color was shown to have a positive effect upon learning when intralist similarity was high, but there was no reliable differential effect for good and poor readers. Serial (as opposed to scrambled) order of presentation was shown to enhance both initial learning and recall. Instructions to use verbal mediators also enhanced learning, but, again, there was no differential effect for good and poor readers. Interactions among the selected cues and other relevant factors and implications were considered in terms of constructing a program for the teaching of reading.

134. Samuels, S. Jay. The Effect of Word Associations on the Recognition of Flashed Words. Paper presented at the American Educational Research Association Conference, Chicago, February 6-10, 1968, 18p. [ED 018 349]

The hypothesis that when associated pairs of words are presented, speed of recognition will be faster than when nonassociated word pairs are presented or when a target word is presented by itself was tested. Twenty university students, initially screened for vision, were assigned randomly to rows of a 5 x 5 repeated-measures Latin square design. The experimental conditions were facilitation, interference, neutral, control 1, and control 2. The subjects recognized words under the five treatment conditions in a counter-balanced design. The subjects' speed of recognition was the average of the first and second correct report. Analysis of variance was used to analyze the data. There was no significant difference among the groups in speed of word recognition. No target words were read faster. The treatment effect of word association on the speed of recognition was highly significant. A discussion of factors which influence speed of reading when reading meaningful connected prose is presented. References and tables are included.

135. Samuels, S. Jay. Word Associations and Learning to Read. Los Angeles: University of California, 1966, 36p. [ED 010 050]

An experiment was conducted to determine the effect of two-word associations in learning to read the second word of a two-word chain. About 45 first and second grade students were chosen as subjects after pretesting to insure they were able to read the first (stimulus) word but not the second (response) word of each word pair used in the study. Eight stimulus and eight response words were used. Each trainee first received instruction in word association by responding orally with the response word after learning the stimulus word. Reading training followed this first procedure through word pair recall and word matching techniques. A word recognition test was then given on the eight response words. Two measures of learning were used: (1) number of correct reading responses, and (2) speed of recognition. Results from both measures showed conclusively that the strength of associations between words did influence the overall acquisition of correct reading responses.

136. Samuels, S. Jay. Word Associations and the Recognition of Flashed Words. Final Report. Minneapolis: University of Minnesota, 1968, 26p. [ED 021 699]

Two separate studies were designed to investigate the effect of reading the first word of a pair on the speed of recognizing the second. One study drew its subjects from the college level; the other from the fourth grade. A scientific prototype three-channel tachistoscope was used, and an erasing image was flashed immediately following the presentation of target words to avoid possible after-image effedts. Ten word pairs were used. Associative value was measured by the Palermo Jenkins Word Association Norms. Results indicated that word recognition speed was facilitated when associative connections between words in the text matched the word associations of the reader. Recognition was retarded when the target word was preceded by a nonassociate. A target word presented without prior knowledge required more recognition cues than one for which the subject had prior knowledge. Differences between adult and child perception were detected in the reporting of a word based on partial information and in the stronger effect of associative words in children. References are included.

Critical Reading

137. Ahn, Chang-Yil. Project ACT (A Project to Advance Critical Thinking). Project Termination Report. Grove City, Ohio: South-Western City School District, 1973, 292p. [ED 086 945]

The goal of this project was to develop a sequential program for the development of critical thinking skills that could be extended to all the elementary schools in the school district. The major objectives were: (1) to enhance teachers' ability to think

critically, practice in their classrooms teaching strategies to develop pupils' thinking, and develop and implement a critical thinking program; and (2) to develop overt manifestations of critical thinking in pupils attending classes taught by teachers trained in the use of critical thinking and to help students score higher on tests measuring critical thinking skills than children in a comparison class where these skills were not stressed. The teachers of grades K-5 in the project school, the principal, and the staff development teacher received inservice training in procedures for developing children's thinking skills. The procedures included: the Hilda Taba Teaching Strategies program, the Building and Applying Strategies for Initial Cognitive Skills program, the teaching of critical reading skills, analyzing levels of thinking, and organizing for instruction. An analysis of evaluation data indicated that the children in the project school tended to make greater gains than the children in the comparison school. The teachers also asked more open questions and there was more classroom interaction exhibited. This project was sponsored by USOE.

138. Bracken, Dorothy Kendall. The Theme Approach for Reading Literature Critically. Paper presented at the Annual Meeting of the International Reading Association, Boston, 1968, 12p. [ED 075 767]

This essay discusses why the theme approach to the teaching of literature to elementary school students is an effective way to focus attention on concepts related to pupils' lives. The author argues that this approach is better than organizing children's literature according to either subject or type because the teacher can more easily guide his students toward the goals of critical thinking. While various students may read different books (depending on their reading level and interests), the class as a whole can meaningfully share ideas focusing on one theme. The author asserts that teachers often become preoccupied with the problems of word recognition and literal comprehension and consequently fail to raise the level of comprehension or to encourage interpretation, evaluation, and application of ideas gained from reading. A theme approach to literature may serve to personalize the reading experience and to develop critical thinking.

139. Flanigan, Jean Culp. Novels for Class Study in Junior High School: Some Recommendations. 1973, 104p. [ED 080 965]

This thesis examines opinions of recognized authorities in the teaching of literature regarding the goals of the literature curriculum in achieving the end of producing students who continue to read for pleasure and enrichment once their formal education is completed. Criteria for selecting novels for adolescents include: (1) readability, availability, and typicality, (2) high interest level, and (3) a recognizable standard of literary quality. Annotated bibliographies of books meeting these criteria are divided into ten major subject categories: personal problems, social problems, adventure, animal stories, historical novels, science fiction, mystery, romance, sports stories, and car stories.

140. Follman, John; and others. Psychometric Analysis of Critical Reading and Critical Thinking Tests--Twelfth Grade. Paper presented at the National Reading Conference, St. Petersburg, December 3-5, 1970, 9p. [ED 046 666. HC not available from EDRS. Available in Twentieth Yearbook of the National Reading Conference]

Psychometric characteristics and factor structure of the Reading Comprehension Test (CR) and the Test of Critical Thinking, Form G (CT) were studied in an effort to determine basic dimensions of critical reading and critical thinking and to discover the relationship between these two. The two tests were administered to 57 Florida high school seniors. Total test score reliability estimates were .88 and .92 for CR and .86 and .87 for CT. Factor analysis indicated that the tests measured separate skills. It was concluded that (1) both tests are psychometrically sound, (2) CR represents a relatively homogeneous underlying variable while CT represents a number of different variables, (3) critical reading is a thinking ability involving judgment of materials and critical thinking is less clearly defined and includes judgments of how conclusions are reached, and (4) critical reading and critical thinking as represented by the tests studied overlap only moderately. References are included.

141. King, Martha; and others. Observations of Teacher-Pupil Verbal Behavior during Critical Reading Lessons. Columbus, Ohio: Ohio State University School of Education, 1967, 36p. [ED 011 819]

Verbal interaction between teachers and pupils when they are reading critically is reported. Six hundred fifty-one children and 24 teachers from seven elementary schools in Columbus, Ohio, served as subjects during the nine-month investigation. Twelve classes, two at each of the six elementary grade levels, were given training in critical reading, while twelve classes were instructed in literature. Teacher questions and student responses were the main focus of the study. An instrument was devised for observing verbal behavior. Eight categories of teacher questions were influenced by Bloom's approach, and five pupil categories, representing levels of thought, were influenced by Guilford's structure. Teachers were informed of forthcoming classroom observations which totaled six in number and lasted for 25 minutes. Chi-square was used to analyze the data. The included results indicated that (1) there is a definite relationship between teacher questions and quality of pupil responses, (2) teachers improved in their ability to ask questions, (3) training of teachers and special instructional materials influenced verbal behavior, (4) limited grade level trends were discernible in teachers' question, and (5) developmental trends in pupil responses were identifiable in the experimental group. Tables and the observation directions are included.

142. Kosinski, Leonard V., ed. Readings on Creativity and Imagination in Literature and Language. Urbana, Ill.: National Council of Teachers of English, 1968, 258p. Supplements the television series, "English for Elementary Teachers," distributed by National

Instructional Television Center, Bloomington, Indiana. [ED 040 177. Document not available from EDRS. Available from NCTE (Stock No. 20532, $3.75 nonmembers, $3.35 members)]

Readings in this book have been selected to show how creativity and imagination can be the central focus in a literature and language arts curriculum for the elementary grades. Selections are divided into four parts, each with a different emphasis. Part 1 contains three articles which trace the development of imaginative literature and stress the importance of developing a child's sense of fantasy, and six articles which examine the distinguishing characteristics of creativity and its relation to classroom activities. Part 2 includes readings which emphasize the importance of children's literature and present innovative thought about the teaching of reading. Articles in part 3 explore the development and use of language by children, new grammars, changes occurring within language, aspects of nonverbal communication, and the use of mass media in education. Readings in part 4 discuss the teaching of the language arts, especially literature, language usage, pantomime, and poetry.

143. Lee, Dorris; and others. Critical Reading Develops Early. Newark, Del.: International Reading Association, 1968, 52p. [ED 079 691. Also available from IRA (Order No. 204, $2.00 nonmember, $1.75 member)]

This issue of the Reading Aids Series presents a discussion of the potential for critical reading among young children and how it can be developed. It offers suggestions for the maximum development of thinking skills and attitudes of inquiry and evaluation. Some of the topics discussed are (1) the development of percepts, concepts, and common meanings, (2) the need to verbalize and interpret, (3) individual differences, and (4) helping children organize their thoughts, draw conclusions, and make judgments. Parents and teachers are advised to encourage young children to be aware of their surroundings, to verbalize their interpretations of their surroundings, and to extend and process their concepts, ideas, and speech patterns. Adequate opportunities for creative oral and written expression, decision making, discovery, and creative experimentation should be provided. Several vignettes of young children's efforts to verbalize are analyzed and commented on. Seven references on children's thinking are cited.

144. Lundsteen, Sara W. Promoting Growth in Problem Solving in an Integrated Program of Language Skills for the Fifth Grade. Paper presented at the Annual Meeting of the International Reading Association, Anaheim, May 6-9, 1970, 24p. [ED 045 304]

The development of pupil behavior in the process of creative problem solving was investigated. A battery of pretests and posttests (including written compositions, oral compositions, and open stories) was developed and administered as part of a program to develop cognitive skills. Treatment groups received instruction

for 30, 60, or 90 minutes per week for 23 weeks. Results from 200 fifth-grade subjects in a total of 24 classes (six classes in each of the four treatment groups) significantly favored two experimental groups. These were (1) the group receiving the basic treatment in problem solving plus extra training in abstract thinking and (2) the group receiving the basic treatment plus extra practice in problem solving. These two groups also showed similar results when high, medium, and low IQ levels were analyzed. Tables, figures, and references are given.

145. Meehan, Sister Trinita. Critical Reading and Teachers' Questions in Theory and Practice. Occasional Papers in Reading, Vol. III. Bloomington: Indiana University School of Education, May 1970, 25p. [ED 055 742. Also available from Reading Program, School of Education, Indiana University, 202 Pine Hall, Bloomington, Ind. 47401 ($1.00)]

Questions teachers use to elicit responses from students affect the kind of thought process the student will use, and subsequently the type of answer he will give. Simplified interaction analysis techniques can be useful in diagnosing and assessing the thinking and feeling competencies of students in the classroom. The right kinds of teacher questions can create an environment conducive to developing critical reading skills. Using the levels and categories of these taxonomies as a framework, the teacher can classify his own questions and thus determine whether or not he is challenging his students on a variety of cognitive and affective levels. By restating questions, the teacher can easily vary the kinds of responses elicited from his students. Frequently, the change of a key word or phrase in the question is all that is necessary to vary the kinds of response required from the listener. A table indicating the relationships between levels and categories of questions, a table showing possible question restatements for level changes, and references are included.

146. Smith, Carl B.; Roser, Nancy, comps. Research on Elementary Reading: Critical and Interpretive Reading. ERIC/CRIER Reading Review Series, Volume 2, Bibliography 19. Bloomington, Ind.: ERIC Clearinghouse on Reading, 1969, 60p. [ED 030 779]

This bibliography of research studies on critical and interpretive elementary reading is divided into two major parts. In part 1, which includes reports published since 1950, subsection A contains citations and abstracts for highly relevant reports focusing specifically on critical and interpretive reading. Subsection B contains a citation and short annotation for those reports which make a relevant statement about critical and interpretive reading but whose main focus lies outside these areas. Subsection C reports studies related in a peripheral manner to these two subject areas. In part 2, reports published between 1900 and 1949 are listed alphabetically according to the author's last name without being classified in terms of relevancy. A citation and annotation are included for each item. This publication is one of a series

of bibliographies related to reading in the elementary school. Information for ordering the cited documents in hard copy or microfiche form from ERIC Document Reproduction Service is included.

147. Stauffer, Russell G.; Cramer, Ronald. Teaching Critical Reading at the Primary Level. Reading Aids Series. Newark, Del.: International Reading Association, 1968, 50p. [ED 027 157. Document not available from EDRS. Available from IRA ($2.00 nonmember, $1.75 member)]

Emphasis is placed on the need for and techniques in the development of critical reading at the primary level. The following steps for teaching reading as thinking and as acquiring ideas are presented: (1) developing purposes for reading, (2) developing habits of reasoning, and (3) developing habits of testing predictions. Underlying principles include (1) means of identifying purposes for reading, (2) adjustment of reading rate to the nature and difficulty of materials being read, (3) reading observation, (4) comprehension development, and (5) training in the fundamental skills of discussion, further reading, and additional study writing. The aims of directed reading-thinking activities are to teach children the skills of extracting information of predictive value from a given context and to provide, through the group medium, thinking reader behavior that will be useful to pupils doing undirected reading. Illustrations of directed reading activities at grades 1 and 3 are presented. References are included after individual articles.

148. Taschow, H. G. Pathway to Critical Reading. Paper presented at Annual Meeting of the International Reading Association, Detroit, May 10-13, 1972, 13p. [ED 063 598]

Critical reading is a continuous process, only beginning in the first grade, which necessitates carefully planned training by qualified teachers. By building upon the student's competence in literal reading, interpretation, evaluation, integration of facts, accurate recall, and reorganization of materials, the teacher can develop the student's questioning attitudes to a point where the student will be able to evaluate his ideas against those presented, bringing forth a different and/or new understanding of the subject matter. Two samples for grade one and grade eleven are given which illustrate the workability of this approach. However, to foster the student's ability to read critically, to improve and refine this ability, and to encourage the student to exercise this ability, the teacher must be well-versed in the art of critical reading himself. A reference list is included.

149. Wolf, Willavene; and others. Critical Reading Ability of Elementary School Children. Columbus: Ohio State University Research Foundation, 1967, 255p. [ED 014 407]

This is the final report of a study conducted to determine (1) whether critical reading skills can be taught to elementary school children while maintaining progress in other basic reading skills,

(2) whether there is a relationship between critical reading ability and such characteristics as general reading ability, intelligence, and personality factors, (3) what kinds of teacher verbal behavior elicit critical responses from children, and (4) what the reactions of teachers to the process of teaching critical reading are. The subjects were 651 Ohio school children in 24 intact classrooms, grades 1 through 6, with two control and two experimental classes at each grade level. Experimental classes received instruction in critical reading, while controls received instruction in children's literature for one academic year. A test-retest design was used. At every grade level the mean scores of the experimental classes were significantly higher than those of controls on critical reading tests. No significant differences appeared between groups on the general reading test. Other findings are discussed. Instrumental materials developed for the study--a verified list of critical reading skills, lesson plans, an observational scale, and critical reading test--are appended.

150. Woodruff, Asahel D. Human Behavior and the Acquisition of Competence in Critical Reading. Paper presented at International Reading Association Preconvention Institute, Boston, April 23, 1968, 13p. [ED 029 759]

The relationship between a person's behavior and the interaction with his immediate invironment is discussed as a shaping process. The behavior that is shaped is always that which is directly and crucially involved in the choice he makes, the response he makes, and the way that response affects him in the given situation. The abstraction process involved in bringing subject matter to the classroom too often renders it in such sterile verbal form that it becomes meaningless to the learner who lacks a background of perceptual experience with the concepts. Two conditions often found in classrooms inhibit behavioral change: (1) verbal communication without comprehension is substituted for perception and conceptual understandings, and (2) the student is required to listen or read but is not enabled to make adjustive responses. Four conditions for behavioral change in the educational setting are discussed: (1) the quality and availability of the learning tasks; (2) activation of all phases of the learning cycle and levels of thought; (3) devices used to influence student behavior; and (4) verbal-conceptual ratios and balance. The beginning stages of a project in critical reading in which a task analysis was written for use with fifth graders' analyses of newspaper articles are discussed.

Comprehension

151. Anderson, Jonathan. A Report of Research on Comprehension in Reading. Paper presented at the Third International Reading Association World Congress on Reading, Sydney, Australia, August 7-9, 1970, 13p. [ED 045 323]

The use of exact-length blanks in cloze tests of reading comprehension was investigated. Subjects were indigenous primary-school pupils in New Guinea for whom English was a foreign language. No significant difference was found between the mean scores of subjects on cloze tests using blanks of a uniform length and the mean scores of subjects on cloze tests using blanks of the same length length as the deleted words. Both versions of cloze tests were equally valid as measures of general reading comprehension. The question of length of blank to use in cloze tests has practical as well as theoretical significance for teachers in constructing cloze tests when they wish to use photocopying facilities. The implication of these findings is that by the use of a photocopy procedure, such factors as size of print, illustrative material, and page layout may be included in the estimate of the ease or difficulty of printed material as measured by cloze tests. Tables and references are included.

152. Bailey, David Sherman. Deprivation and Achievement as Factors in Auditory Comprehension. 1970, 16p. [ED 047 907]

Differentiation of the effects of cultural deprivation and achievement characteristics as they relate to auditory comprehension and by implication to potential reading ability was investigated. A total of 80 eighth-grade students were classified into four experimental groups: deprived-achievers, deprived-nonachievers, nondeprived-achievers, and nondeprived-nonachievers. They were individually exposed to a 500-word auditorially presented passage which was broken up into shorter passages of 40 to 60 words each. The passages were language samples given by representatives of each of the experimental groups and were obtained by having the subjects respond to six stimulus picture cards. Subsequent to the presentation of the auditory information, an auditory cloze test was administered. This test was composed of the same material presented in the initial exposure. The deletion schedule was an every fifth lexical word deletion. Analysis of the data revealed a significant difference on scores of auditory comprehension between groups of achievers and nonachievers and significant differences in scores of auditory comprehension as a function of the source of the auditory material. No significant difference between groups of deprived and nondeprived subjects on scores of auditory comprehension were found. Tables and references are included.

153. Blumenfield, Marian J. Language Arts: Reading for Meaning. Miami, Fla.: Dade County Board of Public Instruction, 1971, 22p. [ED 062 100]

This study outlines a skills development course for secondary grades which is designed to improve skills in reading for understanding via the identification of main and subordinate ideas, reading and listening for directions and purposes, and reading and listening for information. It is aimed to assist both students with satisfactory performance and students with lower achievement.

Sections on performance objectives, assessment devices, rationale, range of subject matter, teaching strategies, teacher resources, and student resources are included. A list of assessment instruments is also given.

154. Carroll, John B. Learning from Verbal Discourse in Educational Media: A Review of the Literature. Final Report. Princeton, N.J.: Educational Testing Service, October 1971, 293p. [ED 058 771]

This review, based on a survey of more than 1200 items in the research literature and sponsored by the U.S. Office of Education, begins by attempting to outline a theory of language comprehension and learning from language. A lengthy chapter is devoted to problems in the measurement of comprehension and of learning from connected discourse. Also considered, in successive chapters, are the role of various kinds of factors in promoting comprehension and learning from connected discourse--stimulus characteristics such as readability, listenability, vocabulary, grammatical structure, and logical organization-stimulus modality (audition vs. vision); the manner of presentation; factors in learning and memory; and individual differences. Problems for further research are pointed out.

155. Chapman, Carita A. An Analysis of Three Theories of the Relationships among Reading Comprehension Skills. Paper presented at the Annual Meeting of the International Reading Association, Kansas City, April 30-May 3, 1969, 17p. [ED 043 473]

The focus in this analysis is on three theories of the relationships among reading comprehension skills primarily relating to the skills used in reading, not to the process or to the instructional procedures used for reading, as differentiated by Robinson. Consideration is given to three factors: (1) the existing need for theories and models in the systematic study of the relationships among the comprehension skills, (2) the definitive purposes served by models and theories, and (3) a discussion of three theories reviewed from theoretical and empirical research utilizing models based on these theories which explain how the component skills of reading comprehension are related to each other. The three theories are defined as follows: (1) the independent or isolated skills theory implies that reading comprehension is a set of different processes which may be learned independently from each other and in any sequence; (2) the global theory asserts that reading comprehension is a single or unitary general process, which after being learned will enable the learner to answer any kind of comprehension question about a given passage; and (3) the hierarchical skills theory asserts that reading skills can be arranged into levels according to the complexity of the behavior necessary to learn each skill. Implications are also made to contemporary educational practice. Tables and references are included.

156. Davis, Frederick B. Psychometric Research in Reading. Paper presented at the Annual Meeting of the International Reading

Association, Detroit, May 10-13, 1972, 17p. [ED 063 096]

This review of psychometric research in reading analyzes the factors which seem related to reading comprehension skills. Experimental analysis of reading comprehension by L. E. Thorndike revealed two major components: knowledge of word meanings, and verbal reasoning abilities. Subsequent analysis of experimental studies of reading comprehension confirmed Thorndike's conclusions and added the skills of (1) obtaining literal sense meaning from a passage, (2) following the structure (syntax) of the passage, and (3) recognizing the literary techniques used by an author. Other tests of reading speed and comprehension also confirm these conclusions. Statistical techniques of substrata analysis and regression analysis are criticized for their lack of validity and their misleading conclusions. Thorndike's conclusions are pronounced confirmed and sound, and suggestions are made for applications of these conclusions to techniques and materials for reading instruction. References are cited.

157. Dawson, Mildred A., comp. Developing Comprehension Including Critical Reading. Newark, Del.: International Reading Association, 1968, 269p. [ED 079 666. Also available from IRA (Order No. 603, $3.50 nonmember, $3.00 member)]

This book is a compilation of selected papers on comprehension and critical reading that have appeared in the annual "Proceedings in Invitational Addresses, 1965," or have been published in the journals of the International Reading Association. The articles have been grouped under several headings: (1) the nature of comprehension in reading; (2) the developmental sequences and levels of comprehension as pupils progress from reading lines to reading between and beyond the lines; (3) the impact on reading which the nature of our American English language may have; (4) contextual clues as they apply to the reader's ability to grasp the ideas in passages; (5) barriers to comprehension; (6) instructional procedures; (7) critical reading; and (8) significantly related articles which do not fall exactly into any of the seven preceding categories and which have only an oblique relationship to comprehension. The book concludes with a selected bibliography of articles that have some relation to comprehension but do not deal directly with it.

158. Goldman, Mildred. The Use of Comprehension Development Materials for Improving Comprehension Achievement with Fourth Grade Pupils. M.Ed. Thesis, Rutgers, The State University of New Jersey, 1973, 69p. [ED 078 379]

This study was concerned with whether or not supplementary work in the subskill areas of comprehension would increase the overall comprehension level of pupils more than supplementary work with vocabulary development exercises. Sixty-six fourth-grade pupils in a middle-class suburban community in central New Jersey were selected as subjects. A control group design was used and both groups spent approximately 20 to 30 minutes a day working at the exercises independently during seat work time, while the teacher

conducted the regular basal reading instruction. Pretests and posttests were administered using alternate forms of the Gates MacGinitie Comprehension Test Level D. The main statistical analysis concerned comparison of mean scores for both groups. Statistical significance was evaluated by the t-test. The comprehension achievement of the top 27 percent and the bottom 27 percent of the pupils tested was also analyzed. All analyses showed no statistical significance at the .05 level between the means of the supplementary comprehension group and the supplementary vocabulary group. Also, no statistical significance could be established between the means of the high scoring pupils nor between the means of the low scoring pupils.

159. Green, Richard T., comp. Comprehension in Reading. An Annotated Bibliography. Newark, Del.: International Reading Association, 1971, 22p. [ED 074 480. Available from EDRS. Also available from IRA ($0.75 nonmember, $0.50 member)]

The fact that comprehension is a topic ranging across many fields is shown by the variety of subjects and areas considered in this bibliography. Entries are arranged under the following eight sections: cloze, critical reading and creativity, factors, language, readability, skills, theory, and thinking. A few of the many articles published on the cloze technique, which now has a variety of applications in testing, in teaching, with the spoken word, in linguistics, and in other fields, are referenced. The relatively vast literature on critical reading and creative reading is selectively sampled. The section on factors includes references to such factors as word analysis skills, interest, rate time intervals materials, evaluation, and their relationship to comprehension. The depths of reading comprehension are explored and probed in the references contained under the theory section. Some of the references cited in the thinking section deal with concept attainment, cognitive functioning, and problem solving as they are related to reading comprehension. References to listening comprehension are excluded because of extensive bibliographies already published.

160. Guszak, Frank J. Reading Comprehension Development as Viewed from the Standpoint of Teacher Questioning Strategies. 15p. [ED 010 984]

An investigation to develop practical and economical means for describing reading comprehension skills and to determine teacher strategies for developing these comprehension skills was conducted. The Reading Comprehension Inventory was developed from a synthesis of elements commonly agreed to constitute reading comprehension. The inventory included recognition, recall, translation, conjecture, explanation, and evaluation. These components were adopted from a classification scheme by Aschner and Gallagher. A pilot study indicated that the instrument could be used reliably by different judges. Four major strategy areas of teacher questioning about reading content were identified: incidence of question types, incidence of congruence between the question and response,

manipulation of the interaction surrounding a single question, and relating questions to one another. A sample of four teachers and their students at grade levels 2, 4, and 6 were randomly selected from a population of 106 teachers in a public school system in Texas. Each reading group was observed. Interactions between teacher and pupils were tape recorded during a three-day period. The incidence of question types was analyzed. Tables, conclusions, implications, and references are included.

161. Guthrie, John T. Feedback and Perseverence in Reading. Paper presented at the Annual Meeting of the American Educational Research Association, New York, February 4-7, 1971, 13p. [ED 049 892]

The effects of immediate and delayed feedback on perseverance and learning were investigated with a 3 x 3 factorial design. It was hypothesized that delayed feedback would reduce perseverance while immediate feedback would increase it. Subjects were 72 male college students, paid for participation. They read prose sentences and completed cloze test items. Feedback on each sentence was either immediate, delayed, or omitted. A cloze retention test over the sentences was either given immediately, delayed, or omitted. The time spent reading a continuation of the original passage was recorded as a measure or perseverance. It was found that (1) delayed feedback produced significantly (p is less than .05) more learning on the original task than did immediate feedback, (2) immediate feedback produced significantly (p is less than .01) more perseverance on the continuation passage than did delayed feedback, and (3) perseverance on the continuation passage was positively correlated (.46) with scores on a comprehension test over the continuation passage. Tables and references are included.

162. Karlin, Robert. Developing Comprehension Skills in the High School Student. Paper presented at the Annual Meeting of the International Reading Association, Denver, May 1-4, 1973, 11p. [ED 073 435]

Teachers can help students develop abilities to enable them to read subject-oriented materials with better understanding. The purpose is not to conduct a lesson in reading comprehension, but to establish purposes for reading, develop word competency, search for surface and deeper meanings, and evaluate information and ideas gained through reading. Teachers can promote purposeful reading by providing suitable motives which students can discuss and weigh. Problem solving can eliminate teacher inspired purposes. The ability to grasp context clues and morphemic clues and to distinguish between literal and figurative meanings, and the study of multiple word meanings and the dictionary can help build better vocabulary skills. The ability to see relationships among ideas, to understand paragraph and other organizational patterns, and to discover meanings and relationships by analyzing sentence patterns is an important measure of comprehension the teacher can help students develop. Helping students discover inferential meanings involves thinking about other ideas the messages might convey. Finally, the student's ability to judge accuracy, distinguish

between fact and opinion, recognize qualification, and perceive persuasion can be accomplished by studying information obtained from several sources.

163. Koenke, Karl. The Effects of a Content-Relevant Picture on the Comprehension of the Main Idea of a Paragraph. Report from the Reading Project. Madison: University of Wisconsin Research and Development Center for Cognitive Learning, 1968, 41p. [ED 024 540]

The importance of content-relevant pictures in the comprehension of the main idea of a paragraph was investigated in this study sponsored by the U.S. Office of Education. Various reading conditions were constructed which contained a paragraph, a picture, or both, each with three types of instructions. In addition, the effects of paragraph readability, student grade placement (grades 3 and 6), and sex were examined. An analysis of variance of the main idea responses to the pictures showed that in general there were no significant differences between boys and girls or between third and sixth graders. Responses to one picture were better than responses to the other two, but only for sixth-grade subjects. The analysis of variance of ratings of the responses to the paragraphs with/without pictures and directions did not affect the adequacy of main idea responses. Although both readability and grade effects were significant, post hoc analyses showed that reading basic paragraphs led to significantly better main idea responses only among the sixth graders and that the significantly higher boys' mean accounted for the difference.

164. Koenke, Karl. The Roles of Pictures and Readability in Comprehension of the Main Idea of a Paragraph. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, February 1968, 21p. [ED 073 417]

The purpose of this study was to determine whether statements of the main idea of a paragraph made by elementary school children could be enhanced if a content relevant picture accompanied the paragraph or if simplification of the paragraph was undertaken. One hundred and ninety-two subjects were selected from among the third and sixth graders attending nine public elementary schools. The subjects were asked to state the main idea of each of three paragraphs either accompanied or not accompanied by content relevant pictures. The various reading conditions were paragraphs alone, paragraphs and pictures with no direction to view the picture, paragraphs and pictures with minimum direction to view the picture, and paragraphs and pictures with maximum direction to view the picture. The three paragraphs developed for each of the three main ideas were four sentences long. The results indicated that (1) the analysis of variance did not reveal significant differences between responses of boys and girls, irrespective of grade, or among the reading conditions; (2) the addition of a content relevant picture to a paragraph with or without direction to use it did not enhance either third or sixth graders' main idea statements; and (3) the simplification of the paragraphs did lead to

higher scale ratings for both third and sixth graders.

165. McConkie, George W.; and others. Experimental Manipulation of Reading Strategies. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, April 1972, 23p. [ED 062 087]

One hundred and forty undergraduates were divided into seven equal groups; each group read five passages and then answered one of seven types of questions. However, after reading the sixth passage, all subjects received the same type of questions. Reading time for each passage was recorded, and students were encouraged to read faster. Significant group differences in reading speed did not occur for the first passage, but did occur for the last passage (p is less than .01) (these two passages were the same for all subjects). A second experiment replicated part of the first experiment under conditions in which subjects were encouraged to slow down and to answer questions correctly. Results from the two experiments were compared. It was found that experiment 1 subjects read significantly faster than comparable groups in experiment 2 (p is less than .001), but they also received significantly lower scores than the latter. No other effects were significant. References and figures are included.

166. Martin, Clessen J.; Herndon, Mary Anne. Comprehension of Telegraphic Prose. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, April 1972, 3p. [ED 062 090]

The effects of telegraphic prose upon the comprehension of written and auditorily presented messages were tested. Two separate experiments were conducted. Subjects for the first experiment were 60 undergraduates enrolled in a remedial reading program; subjects for the second experiment were 100 undergraduates enrolled in an introductory educational psychology course. In both experiments, subjects were randomly assigned to four treatment groups: visual-traditional, visual-telegraphic, auditory-traditional, and auditory-telegraphic. The groups read or listened to a fictional story in either the traditional prose or the telegraphic form and then answered 20 questions on the passage. Four dependent variables were analyzed: total number correct on the test, reading rate, reading time, and S-scores (number of tested items correct minus the number of disjunctive items correct). It was found in both experiments that the amount of time spent reading the telegraphic versions was less than one-half the time spent reading the traditional passage, but there was approximately 12 percent less comprehension demonstrated by the telegraphic groups than by the traditional groups. No interaction was found between the visual-auditory variable and the traditional-telegraphic variable.

167. Mock, Sherry. Improving Reading Comprehension. Iowa City: University of Iowa Special Education Curriculum Development Center, 1972, 220p. [ED 059 573]

Activities, procedures, and resources are suggested for teaching reading comprehension skills to mentally retarded students in this study sponsored by the Iowa State Department of Public Instruction. The document is intended as a handbook of teaching ideas based upon a flexible listing of sequential comprehension components. Comprehension skills are divided into five global grade levels and twelve major kinds of skills. Emphasis is upon individualizing instruction, using parents to reinforce school training, and presenting material audiovisually. Suggestions for classroom planning and program management are included. Major tests which can be used in the diagnosis of comprehension problems are summarized. Also included are resource lists of supplementary reading materials which can be used to teach comprehension skills, and a resource list of books for slow learners.

168. Otto, Wayne; Barrett, Thomas C. Two Studies of Children's Ability to Formulate and State a Literal Main Idea in Reading. Report from the Reading Project. Madison: University of Wisconsin Research and Development Center for Cognitive Learning, 1968, 32p. [ED 024 543]

The two reported studies sponsored by the U.S. Office of Education examined children's approaches to and success in conceptualizing a literal main idea in reading. The first study examined elementary pupils' ability to formulate a main idea for brief, carefully controlled paragraphs written with one specific but unstated main idea. The study revealed that although subjects' grade placement and paragraph readability were critical factors in determining response quality, the children's main idea responses were generally of low quality. In the second study, second and fifth graders were asked to formulate hypotheses about the main idea after each successive sentence of a paragraph was presented. This study revealed that relatively few subjects were successful in formulating a high level main idea statement and that children may have no clear conception of what a main idea ought to be. It was suggested that systematic teaching designed to channel pupils' energies in formulating main idea statements would yield worthwhile results. Background information, methodology employed, and paragraphs used in the study are included.

169. Otto, Wayne; and others. The Assessment of Children's Statements of the Main Idea in Reading. Paper presented at the Annual Meeting of the International Reading Association, Boston, April 24-27, 1968, 15p. [ED 019 197]

A continuation of a study of pupils' ability to formulate and state a literal main idea in the reading of short, specially constructed paragrpahs is reported. One of the major tasks was to develop a descriptive profile of the main idea responses for a group of 400 second- and fifth-grade pupils. A 12-point scale was used for the numerical ordering of responses of three paragraphs at the first-grade readability level. Responses required a synthesis of both subject and predicate in one sentence and were coded and

categorized by three judges. Data from both grades were examined separately to make informal comparisons. Interjudge reliability coefficients were very high for paragraphs combined and separate. Low interparagraph correlations indicated that the paragraphs were not interchangeable. Second graders tended to reply in title-like responses, indicating an inability to cope with complete statements. Since the majority of fifth graders were able to respond adequately, there is a need for work with more complex tasks at this level. Further experimentation is planned. References are listed.

170. Robinson, H. Alan. Psycholinguistics, Sociolinguistics, Reading and the Classroom Teacher. Paper presented at the Annual Meeting of the International Reading Association, Detroit, May 10-13, 1972, 11p. [ED 063 588]

Any reputable approach to the teaching of reading makes use of certain psycholinguistic and sociolinguistic concepts which can provide the teacher with insights for the development and strengthening of reading skills. An understanding of the respect for the learner's cultural and behavioral patterns can establish group empathy, instrumental as a base for enlarging oral and written communication. Rather than deprecating the learner's dialect, the teacher should be familiar enough with it to know when corrections are called for and when they are not. By capitalizing on the dialect both semantically and syntactically, the teacher can broaden the learner's comprehension skills; furthermore, by using reading materials which reflect the needs of the learner, the teacher can increase the learner's willingness to use his language as a more effective means of communication. The teacher should be reminded of the importance of the learner's understanding and use of context clues in developing strategies appropriate to the nature of the materials on hand and for unlocking ideas in print--both of which lead to the successful completion of reading tasks.

171. Stoodt, Barbara D. The Relationship between Understanding Grammatical Conjunctions and Reading Comprehension. Ph.D. Dissertation, Ohio State University, 1970, 126p. [ED 060 010. Document not available from EDRS. Available from University Microfilms (Order No. 71-7576)]

Three hypotheses gave direction to this study conducted with a stratified random sample of fourth-grade students. The chief purpose was exploration of the relationship between a subject's understanding of conjunctions and his reading comprehension. Another purpose was to explore the difference in the difficulty of various conjunctions. The third purpose was related to the relationship between understanding conjunctions and the demographic variables of socioeconomic level, sex, and intelligence. Four tests were administered: comprehension of conjunctions, cloze comprehension of conjunctions, Stanford Achievement, and Pintner Mental Ability. The data were analyzed by statistical procedures. Results of the study show that (1) there is a significant relationship between reading comprehension and understanding conjunctions;

(2) nine conjunctions were found significantly difficult, and four were found significantly easy; and (3) girls achieved higher than boys on measures of comprehension of conjunctions, and there was a high positive relationship between socioeconomic level and all measures of comprehension of conjunctions. These findings provide indications for improving instruction of disadvantaged students in the area of reading comprehension, and greater individualization of instruction is suggested.

172. Williams, Richard P. Applying Research Findings in Comprehension to Classroom Practice. Paper presented at the Annual Meeting of the International Reading Association, Seattle, May 4-6, 1967, 12p. [ED 014 387]

Research shows that, in spite of the favorable attitude toward scientific research, a gap exists between the initiation of an innovation and its wide acceptance. To help close the gap, teachers are encouraged to apply research findings to classroom practice and to determine their feasibility. Sixteen studies on comprehension cited in this article illustrate the following inferences teachers could use: (1) silent reading followed by pertinent questions is better than oral reading instruction, (2) the techniques of underlining, rereading, outlining, and summarizing are equally efficient in obtaining comprehension gains, (3) comprehension gains improve when reading is guided by pertinent questions rather than by rereading, (4) programed instruction seems to be more effective than the instruction-centered approach in developing reading comprehension, (5) oral reading appears to have advantages over silent reading at certain levels of difficulty, (6) knowledge of grammar and syntax has little value in reading comprehension, (7) the emotions of a reader interfere with the comprehension of what is read, and (8) comprehension is a complex process that depends upon numerous factors.

Listening

173. Anderson, Lorena. Listening: Upper Elementary Grades. Paper presented at the Annual Meeting of the International Reading Association, Anaheim, May 6-9, 1970, 7p. [ED 044 257]

The importance of a good listening program in the upper elementary grades was emphasized. Perhaps the biggest listening problem with these students, according to the author, is to teach them to read as they listen. Suggestions were offered as to how to build listening skills. The separate communicative skills of listening, speaking, reading, and writing need to be taught, but it should be recognized that development in one skill reinforces another and that communications skills should be taught by discovery, practice, evaluation, and more practice. Examples of creative listening activities were also given.

174. Duker, Sam. Listening. In Encyclopedia of Educational Research, 4th ed. London: The Macmillan Company, Collier-Macmillan Ltd., 1969, pp. 747-754. [ED 029 896. Document not available from EDRS. Available from the Macmillan Co.]

This survey of listening as a receptive communciation skill summarizes major research on listening in the following areas: (1) scope and extent of listening, (2) literature on listening, (3) relationships to listening--the interrelationships between listening and such factors as reading skills, intelligence, school achievement, cultural status, speech, and learning during sleep, (4) teaching of listening, and (5) measurement of listening skills, including studies on rapid listening. A list of books, theses, articles, research reviews, and bibliographies on listening is provided.

175. Hollingsworth, Paul M. Interrelating Listening and Reading. Paper presented at the Annual Meeting of the International Reading Association, Boston, April 24-27, 1968, 13p. [ED 019 208]

The interrelationships between listening and reading are discussed. Some common elements between the two skills are vocabulary, sentence patterns, organization of ideas, and adjustment to the function of language. Listening comprehension is positively related to reading comprehension. Reading and listening involve the same mental processes--stimuli and perception. Differences between the two center on the rate of presentation and the number of times the information is available. It has been found that a listening test is as effective a predictor of success in reading as a standardized reading test. Classroom listening or reading instruction should involve the goals established for the learner, the practice necessary to achieve that goal, and an evaluation of progress.

176. Kellogg, Ralph Edward. A Study of the Effect of a First Grade Listening Instructional Program upon Achievement in Listening and Reading. San Diego, Calif.: San Diego County Department of Education, 1966, 161p. [ED 012 232]

A first-grade listening skills program was designed to be taught as an integral part of the language arts program and to improve achievement in listening and reading. The components and guidelines for the experiment are specified. Thirty-three classrooms in 22 elementary schools in San Diego County participated. The treatment groups were a traditional approach and an experience approach. Within each treatment group 40 structured or unstructured literature listening lessons of 20 minutes each were taught. A posttest only control design was utilized. Analysis of variance was used to analyze the data. The Pintner-Cunningham Primary Intelligence Test, the Stanford Achievement Test, and the Wright Listening Comprehension Test were administered. Teachers evaluated the lesson plans. The structured program within the traditional group caused a significant difference in all listening and reading achievement for boys, tied only in listening vocabulary for girls. The structured

program in the language experience group significantly affected total listening achievement and reading vocabulary for both boys and girls. Other results, conclusions, recommendations, limitations, appendixes, tables, figures, and a bibliography are included.

177. Lundsteen, Sara W. Listening: Its Impact on Reading and the Other Language Arts. Urbana, Ill.: National Council of Teachers of English and the ERIC Clearinghouse on the Teaching of English, 1971, 145p. [ED 078 420. Available from EDRS. Also available from NCTE (Stock No. 50517: $2.50 nonmember, $2.00 member)]

One of a series of state-of-the-art papers, this monograph focuses upon the reasons for stressing listening in a language arts program. Listening is defined according to six approaches: comparative, ostensive, classificational, structural, operational, and synonymic. Some past and current ideas concerning a taxonomy of listening skills are discussed as to the dimensions of these skills, their prerequisites, ways of classifying them, and a method for formulating skills into learner objectives and arranging them into tentative hierarchies. Examinations are made of criticisms and rationales for listening tests in general, standardized tests, unpublished tests, publishers' informal assessments which accompany their instructional materials, and informal devices such as coding sheets, standards, and checklists. Selected published and unpublished materials designed for various types of instruction, goals, and populations, starting with the young child, are reviewed, and studies and ideas on various teaching techniques are presented. Research references, annotated when appropriate, are given at the end of the report for all chapters. An appendix gives some sample listening lessons from the Thinking Improvement Project (TIP). Figures and other illustrations are given throughout the text.

178. Reeves, Rachael Joanne. A Study of the Relation between Listening Performance and Reading Performance of Sixth-Grade Pupils as Measured by Certain Standardized Tests. Ed.D. Dissertation, University of Alabama, 1968, 129p. [ED 039 253. Document not available from EDRS. Available from University Microfilms (Order No. 69,6563)]

In a study of the relation between listening performance and reading performance, a standardized listening test (Sequential Test of Educational Progress) and a reading test (Stanford Achievement Battery of Tests) were administered to 247 sixth-grade pupils in Decatur, Alabama. The problem of the study was divided into three parts: (1) detection of any significant difference in the listening performance of high, middle, and low performance readers; (2) determination of any difference in listening performance when pupils read alternative responses to the given questions as the examiner read them aloud and when pupils only listened to the possible responses; and (3) ascertainment of any differences (as in number two above) within subgroups, such as high, middle, and low reading performer, or boys and girls. Findings showed highly significant

differences in listening performance of high, middle, and low reading performers (the good readers tended to be the best listeners) and significantly higher scores among pupils as a whole and within each subgroup when they were permitted to read as well as listen to alternate responses.

179. Rosenshine, Barak. New Correlates of Readability and Listenability. Paper presented at the Annual Meeting of the International Reading Association, Boston, April 24-27, 1968, 17p. [ED 024 528]

Horizontal readability, the analysis of essentially similar passages through classification of words and phrases according to their cognitive similarity, is discussed in relation to its usefulness in differentiating among materials designed for the same reading level. Three studies of horizontal readability in which passages were rated for high and low comprehension are described. Research findings indicated five variables of reading difficulty: (1) vagueness, which resulted from indeterminate qualifiers and probability words, lowered comprehension; (2) explaining links such as prepositions and conjunctions, which indicated that the cause, result, or means of an event or idea was being presented, raised comprehension; (3) the frequent use of examples produced greater understanding; (4) a rule-example-rule pattern of explanation was more effective than either inductive or deductive explanation; and (5) the elimination of irrelevant sentences facilitated comprehension. It is noted that experimental research will be necessary to further clarify these findings, but it is recommended that the findings be implemented now for textbook evaluation. References are listed.

Language Development

180. Abbott, Mary K.; and others. Practices in Developmental Reading. San Francisco, Calif.: San Francisco Unified School District, 1963, 180p. [ED 001 605]

Reading development is necessary at all levels of the student's education whether he is achieving beyond, behind, or at grade level. The vocabulary skill exercises described in this guide are held to have been especially effective in the classroom. The teacher is expected to adapt exercises suited to the needs of a particular class. It should be understood that the exercises are presented as "guides" to vocabulary skill-building rather than as a complete program. The exercises are in the following areas: using phonetic skills, analyzing the structure of words, recognizing similarities and differences in word forms, interpreting meaning from context, developing an extensive and accurate vocabulary, and using the dictionary effectively.

181. Anastasiow, Nicholas. Oral Language and Learning to Read. Paper presented at the International Reading Association Conference, Anaheim, May 6-9, 1970, 17p. [ED 043 453]

Research findings concerned with the relationship between the child's oral language behavior and learning to read are described. A cognitive-biological approach to the child's perceptual system development is taken, and data are presented to support both the developmental point of view of language development and the point of view that the child reconstructs all sensory input. Two critical phases in learning to read are delineated: (1) the child's previous ability to comprehend and decode speech auditorily as a prerequisite to decoding print and (2) the child's understanding of the relationship of spoken speech to the written symbol system for speech. The point is made that oral language is important only in that it may reflect cognitive and perceptual mastery of language, but it is an insufficient and inaccurate predictor of many children's capacity to learn how to read. A bibliography is included.

182. Anastasiow, Nicholas. Oral Language: Expression of Thought. Bloomington, Ind.: ERIC Clearinghouse on Reading; Newark, Del.: International Reading Association, 1971, 49p. [ED 054 393. HC not available from EDRS. Available from IRA ($1.50 nonmember, $1.00 member)]

A child's language reflects his thought processes and his level of development. Motor, emotional, and language development all have a direct relationship to the child's cognitive functioning--each follows the pattern of moving from gross and loosely differentiated states to refined and differentiated systems. Research in early childhood education suggests that all learning is essentially motoric and that oral language is a manifestation of early motor and language training. Therefore, learning activities which incorporate emotional, motor, cognitive, and language expression have the greatest potential for maximizing the child's intellectual growth. In assessing the language development of dialect-speaking poverty children we have come to recognize oral expression as a reflection of a system of cognitive processes--that these children are not deprived of such systems but that they have different systems. Approaches to teaching oral expression in early childhood include the use of the dictated story, puppets, sentence repetition, play, dramatization, dance, field trips, and singing. Materials designed for rhythmic-physical involvement include rhymes, jingles, dramas, pictures, and chalk boards. The teacher must accept the child's dialect but also provide a model of standard English for her students.

183. Anisfeld, Moshe. The Child's Knowledge of English Pluralization Rules. 6p. [ED 019 635]

This paper presents first a summary of research investigating the extent to which the kindergarten child has abstracted implicit regularities in the formation of plurals in English. Production

and recognition tasks were used. The children made more errors with syllables requiring the addition or deletion of the /iz/ allomorph than with syllables requiring either /s/ or /z/. (See related document ED 011 653.) A discussion of the implications of these findings for reading follows. The author suggests that (1) reading and writing, although they share some common processes, are not "the same thing in reverse," (2) the omnipresence of the totality of language is perhaps nowhere as obvious as in reading, and (3) reading is a hierarchical process of elimination of uncertainty. The reader should examine first the letters richest in information--those capable of eliminating the largest number of alternative hypotheses--and use the low information letters for deciding among the remaining alternatives. Consonants have more regular sound values than vowels and are therefore more dependable clues to reading.

184. Athey, Irene. Language Models and Their Relation to Reading. Paper presented at the meeting of the International Reading Association, Atlantic City, April 19-23, 1971, 14p. [ED 053 863]

Three language models (Staats, Lenneberg, and Piaget) are reviewed, and implications for reading are suggested. Staats' behaviorist stance maintains that imitation, mediation, generalization, and discrimination are key concepts in language learning behavior. Critics contest the importance of these concepts and claim that behaviorists cannot fully account for language development. The biological theory presented by Lenneberg contends that language is a manifestation of innate species-specific propensities, that language develops in a fixed sequence, and that the crucial period for language development is between ages 2 and 4. Each of these claims is challenged by critics. Piaget maintains that language development comes only after a certain level of cognitive development is reached by the child. An enriched environment conducive to teaching the child to think is essential to language development. Critics of this theory suggest the need for more research concerning the relationship of language to cognition. Some contradictory implications of these models for reading are listed, and references are included.

185. Athey, Irene. Theories of Language Development and Their Relation to Reading. Paper presented at the National Reading Conference, St. Petersburg, December 3-5, 1970, 20p. [ED 049 886. HC not available from EDRS. Available in the Twentieth Yearbook of the National Reading Conference]

This conference report is centered on that phase of the targeted research and development program in reading literature search dealing with language development as it relates to reading. Models of language acquisition, hypotheses derived from the models, and comparisons of synthesized models are discussed. Among them are behaviorist (Skinner), cognitive (Chomsky), and concept acquisition (Brown) models, and relationships are drawn both among the models and between them and the work of Piaget in developing an

organismic-developmental model. The work of Lenneberg and Carroll is also discussed at some length. Implications of each of these models for reading instruction are discussed. The behaviorist models suggest programed instruction beginning with simple units and proceeding to larger ones; the cognitive models suggest development of verbal abilities prior to reading instruction; and the developmental models suggest that learning during early school years might better employ methods other than those requiring abstract symbols. All of the models suggest the importance of classification abilities and acquaintance with the dialect of reading materials before instruction begins. References are included.

186. Braun, Carl, ed. Language, Reading, and the Communication Process. Newark, Del.: International Reading Association, 1971, 176p. [ED 070 058. Also available from IRA ($4.50 nonmember, $3.50 member)]

The sixteen papers included in this volume, all dealing with relationships between language and linguistics and reading, reflect both a wide range of opinion on the subject and considerable variety of focus. The six research reports are all concerned with reading achievement, but under varying conditions. Among these are a study of variations in oral reading styles of fourth-grade nonstandard English speakers, and another of variations in reading achievement among subjects at nine grade levels. Theoretical discussions of language development as related to reading comprise the remaining papers. These include reviews of pertinent research and present ideas based on this research. Among the factors discussed are the development of language concepts, influences of sex on language development, and means of relating instruction to children's language abilities. Tables and references follow individual papers.

187. Byrd, Charlene H. A Program of Sequential Learning in Reading Skills. Syracuse, N.Y.: Syracuse City School District, 60p. [ED 002 601]

Presented is an experimental outline of a program designed to teach basic skills needed for word-recognition and understanding, in addition to other aspects of total reading skill. Part 1 presents components of sequential learning in reading skills, consisting of word perception, word identification, word meaning, comprehension, critical reading, and good study habits. Each skill is presented in its respective section, and basic skills contributing to that skill are outlined. In part 2, skills are presented in the order in which they should be taught. A sequential outline is presented covering skills to be attained before grade one ghrough the seventh grade. Specific teaching techniques are suggested regarding each of the particular skills to be reviewed at each grade level. Part 3 presents an informal teacher-made diagnostic test designed to test the degree of student achievement with each skill. The test is designed to supplement the Iowa Basic Skills Test, used only to

test vocabulary and reading comprehension.

188. Fishbein, Justin; Emans, Robert. A Question of Competence: Language, Intelligence, and Learning to Read. Chicago, Ill.: Science Research Associates, Inc., 1972, 231p. [ED 072 419. Document not available from EDRS. Available from Science Research Associates, Inc., 259 East Erie St., Chicago, Ill. 60611 ($5.90 paper)]

An explanation of the child's mind and his language, stated in terms of the nature of the learner, is presented in this book. The authors ask teachers to think about the competence of the child and try to discover what he must know to be able to read. They ask teachers to examine the nature of the learner--what he knows that enables him to learn to read and to read with comprehension. The book traces the development of the child as he gains competence first in thought, then in language, finally in reading by presenting research studies describing observed behavior and then offering theoretical explanations of that behavior. Finally, a series of hypotheses is offered to account for differences in performance with various materials and methods and competencies. The authors focus primarily on Piaget, Lenneberg, Chomsky, Vygotsky, and Underwood in their discussions.

189. Friedlander, Bernard Z.; de Lara, Hans Cohen. Receptive Language Anomaly and Language/Reading Dysfunction in "Normal" Primary Grade School Children. 1973, 21p. [ED 073 424]

Although receptive language organization is the foundation of all linguistic development, the evaluation of children's performance in listening to extended streams of speech is not a significant aspect of present methods of assessing children's language and reading capability. In repeated individual test sessions, 44 normal children in a suburban primary school registered their listening preferences for either the natural soundtrack or an electronically processed unintelligible soundtrack accompanying selected segments of "Sesame Street" programs. Thirty-three of the children decisively rejected the unintelligible TV soundtracks. The remaining eleven children each spent as many as 30 minutes viewing TV programs with garbled, distorted soundtracks, although clear soundtracks were easily available. Each of the nonselective listeners also showed patterns of mild to moderate language and reading dysfunction in the classroom. These data confirm other studies in suggesting that approximately 25 percent of presumed normal children manifest unrecognized anomalies of selective language listening. These results strongly suggest the importance of including systematic evaluation of speech-stream receptive language functioning in language and reading assessment. This study was sponsored by the Department of Health, Education and Welfare, Maternal and Child Health Services.

190. Goodman, Kenneth S.; Burke, Carolyn L. Study of Children's Behavior while Reading Orally. Final Report. Detroit, Mich.: Wayne State University, 1968, 139p. [ED 021 698]

Psycholinguistic knowledge and techniques can be used as the basis for reading process research with a view to the development of a reading theory. The initial phase of such a study is reported, and reading behavior on a comprehensive basis is examined. The assumption upon which the research is based is that reading miscues are generated by the same process that generates expected responses. The oral reading behavior of 12 children reading a story selected from a basal reader was examined. These subjects were fourth and fifth graders who were determined by informal test and teacher evaluation to be proficient readers. Initial analysis of miscues led to the formulation of a taxonomy of reading miscues. Questions concerning each miscue were asked. Change and acceptability were examined semantically and syntactically at the phonemic, morphemic, and syntactic levels. Miscues were examined, compared, and contrasted in terms of their component parts, relative value, and levels of involvement. References are listed. Appendixes include material on computer coding which uses the taxonomy of cues and miscues, a comprehension rating sheet, and a reading research data sheet. This study was sponsored by the USOE Bureau of Research.

191. Goodman, Kenneth S.; Burke, Carolyn L. A Study of Oral Reading Miscues that Result in Grammatical Re-Transformations. Final Report. Detroit, Mich.: Wayne State University, 1969, 192p. [ED 039 101]

The oral reading miscues of 18 proficient readers, six each from grades 2, 4, and 6, were divided into those which did not change syntactic structure (nontransformation miscues) and those which did (retransformation miscues) and were analyzed through the use of the Goodman Taxonomy of Reading Miscues. The two groups of miscues were compared with the following categories: (1) correction attempts, (2) cueing from the peripheral visual field, (3) dialect, (4) graphic and phonemic relationships, (5) grammatical function, (6) level of syntactic involvement, (7) syntactic and semantic proximity, and (8) syntactic and semantic acceptability. Retransformation miscues were further categorized according to changes effected on the deep and surface-level structures. A total of 1,742 miscues were analyzed, of which 1,061 were retransformation miscues. Qualitative differences between retransformation and nontransformation miscues and qualitative differences within retransformation miscues were considered. Tables, appendixes, and a bibliography are included.

192. Goodman, Yetta M.; Goodman, Kenneth S., comps. Linguistics, Psycholinguistics, and the Teaching of Reading: An Annotated Bibliography. Newark, Del.: International Reading Association, 1971, 34p. [ED 071 060. Also available from IRA ($0.75 nonmember, $0.50 member)]

The second edition of this annotated bibliography on linguistics, psycholinguistics, and the teaching of reading contains 40 percent more publications than the earlier edition, which covered works through 1967. The citations include a full range of points of view, topics, and authors' special fields and ask the readers to read a number of the references relating the applications of linguistics and psycholinguistics to reading instruction to develop their own criteria for judging reading materials. Citations are arranged under the following categories: (1) the background of linguistics and language study; (2) comprehension, semantics, and meaning; (3) curriculum; (4) dialects and related problems; (5) general application of linguistics and psycholinguistics to reading; (6) instruction in reading; (7) intonation; (8) relationship between oral and written language; (9) research; (10) syntax and grammar; (11) the reading teacher and linguistics; (12) theories of reading; and (13) word recognition.

193. Heilman, Arthur W.; Holmes, Elizabeth Ann. Smuggling Language into the Teaching of Reading. Columbus, Ohio: Charles E. Merrill Publishing Co., 1972, 109p. [ED 072 403. Document not available from EDRS. Available from Charles E. Merrill Publishing Co., A Bell and Howell Co., 1300 Alum Creek Drive, Columbus, Ohio 43216 ($2.50 paper)]

Techniques and procedures for teaching reading as a meaning-making, language-oriented process are the focus of this book. The underlying premise is that children are taught to read so that they have an important tool for developing and expanding concepts. In order to accomplish this aim, children must be exposed to the precision and ambiguities of language and to worthwhile reading matter as they learn the mechanics of reading. They must understand why it is important that they learn to read, not merely learn the fundamentals of how to read. Each chapter, relating to one aspect of this development, includes a variety of activities and suggestions for procedures to be used to enhance a love of language and of reading. Chapter topics include intonation, word meaning, critical reading, reading and writing, and study skills.

194. Linder, Ronald; Fillmer, Harry T. Research Generalizations on Reception Skills. 1971, 9p. [ED 055 751]

Because learning to read is based on the ability to sift and organize sensory input, it is important for teachers and curriculum planners to know of the sorts of language experiences which develop reception and, subsequently, reading skills. Research on the effects of visual and auditory presentation of information and on early sensory experience indicates that (1) children of different cultural and social backgrounds show different preferences for auditory and visual presentation, (2) preference for visual and auditory presentation changes with maturational level, (3) the appropriate modality of presentation is determined by the type, complexity, and extensiveness of the information to be conveyed, (4) types of sensory modalities exist in a hierarchy moving from concrete

meaning to abstract meaning, (5) feedback stimulates learning, (6) auditory deficits are more common than visual deficits, and (7) children of low socioeconomic levels have deficits in all language development. Suggestions for applying this research to classroom techniques and approaches are made. References are included.

195. Menyuk, Paula. Language Development: Universal Aspects and Individual Variation. Paper presented at the Annual Meeting of International Reading Association, Detroit, May 10-13, 1972, 17p. [ED 063 580]

Universal trends and individual variations in the language development process of the child are described and their relationships to beginning reading instruction are discussed. Child language begins with single word utterances to name things or to express needs and feelings. With a two-word utterance, the child can describe relationships more precisely: he has a "topic" of conversation and a modifying "comment." He begins to use the linguistic conventions of intonation and stress to define meaning. The child then begins to add grammatical structures to his language, and mastering the simpler structures before the more complex. The child is able to make generalizations about the language he hears and is able to form structural descriptions or rules spontaneously. By school age the child possesses a vocabulary of 2,000-3,000 words, and he can generate a variety of types of sentences. His language continues to become more precise and rich. The most important linguistic development from kindergarten on is the acquisition of more and more complete descriptions of relationships within and between sentences. (Examples of child language patterns are given; implications for reading instruction are discussed; and a bibliography is included.)

196. Newton, Eunice Shaed. Linguistic Pluralism: Impediment to Universal Literacy. Paper presented at the Annual Meeting of the International Reading Association, Denver, May 1-4, 1973, 13p. [ED 078 398]

The current status of world literacy can be revealed through recent UNESCO data: (1) the nations of the world spend an average of $7800 annually to train and equip one soldier, while spending only an average of $100 annually to educate one child; (2) a quarter of the world's population will not attend any school in this century; (3) more than 40 percent of the world's adult population is estimated to be unable to read and write; (4) 65 percent of the world's population is estimated to fall below the level of functional literacy when the criterion of fourth-grade level of reading ability is used; and (5) in as many as eight European countries, illiteracy ranges from 10 percent to 65 percent of the population at age fifteen and above. The plurality of languages is a critical factor in the development of literacy. In such countries as Morocco, Angola, India, and Malaysia it is not uncommon to find one language recognized for official uses, another used in public schools, and yet another used in private and parochial schools. Literacy cannot

be diminished until this struggle for a common, unifying medium of human communication is resolved.

197. Rodosky, Robert J. 1969-70 Language Development; Intermediate and Secondary. Final Report. Columbus, Ohio: Columbus Public Schools, [1970], 70p. [ED 061 352]

The intermediate and Secondary Language Development Component, funded under Title I of the 1965 Elementary Secondary Education Act, has the following objectives: (1) to help the underachieving pupil, grades four to twelve, improve his reading achievement; (2) to help the intermediate level (grades four to six) underachieving pupil to become more successful in his regular reading class work; and (3) to help the intermediate level underachieving pupil develop more positive motivations toward reading. Thirty public schools of the Columbus Public School District and four Diocesan schools were served by this component. The curriculum included numerous activities under the categories of motivation, motor activities, visual discrimination, auditory perception, listening, sight vocabulary, word analysis, comprehension, phonics, and study skills. There was consultation with classroom teachers about individual pupils. Pupil selection was made on the basis of a comparison of obtained versus expected reading scores on the Gates-MacGinitie Reading Test, for fourth graders, or the Nelson Reading Test, for fifth or sixth graders. The 35 pupils who demonstrated the largest discrepancy and who were also below age level were selected for further diagnosis and instruction.

198. Rubin, Rosalyn; and others. The Relationship of Speech Articulation to Reading and Related Language Skills: A Review. Interim Report 12. Minneapolis: University of Minnesota, Department of Special Education, 1972, 27p. [ED 062 097]

An extensive review of the literature on the relationship of speech articulation to reading and other language skills has revealed few studies in which relevant variables were clearly defined and carefully controlled. Results of past investigations fail to provide conclusive data due to the lack of consistency in defining disability groups, lack of adequate control groups in studies of intervention techniques, and lack of comparability among measures of educational outcomes (e.g., oral vs. silent reading tests) used in different studies. Evidence has been found of a small but definite relationship between articulation and other language skills: reading, vocabulary, and other lexical and grammatical errors. Relationships are stronger when oral tests are used to measure the language function (oral reading, reading readiness). Relationships also tend to be stronger when younger children are used as subjects, partly because oral tests must be used when dealing with very young children. There is a great deal of overlap in reading achievement between groups of children with articulation difficulty and those with normal speech. Further research is recommended. References are included.

199. Ruddell, Robert B. Language Acquisition and the Reading Process. Paper presented at the Annual Meeting of the International Reading Association, Kansas City, April 30-May 3, 1969, 32p. [ED 033 819]

A child's language development during the elementary school years is described, with emphasis on acquisition and control of structural and lexical dimensions of the language of standard and nonstandard speakers and with special concern for the relationship between language production and the reading process. Numerous research studies are reviewed under the following headings: Phonological and Morphological Development, Reading-Decoding, Syntactical Development, Reading-Comprehension, Concept Development, and Comprehension Strategies and Objectives. In addition to problems associated with dialectical differences, three levels of functional variety in oral and written expression are distinguished: informal, formal, and literary. Suggestions for future research are made in terms of seven key dimensions to be studied. A 61-item bibliography is included.

200. Shuy, Roger W. Language Variation and Literacy. Paper presented at the Annual Meeting of the International Reading Association, Kansas City, April 30-May 3, 1969, 15p. [ED 033 825]

Characteristics of language variety are identified, and language systems are viewed as having their own sympathetic patterns which are not deviant from but which are different from each other. The relationship of language variation to literacy is discussed, and matching beginning reading materials to the child's oral language is seen as facilitating learning how to read. Teachers are encouraged to defer their desire to correct every nonstandard form in their students' speech and are urged to encourage communication in their students. The study of children's language is viewed as the core area of teacher preparation. Areas of suggested study which are briefly explained include the nature of language in general and of nonstandard English, field work in child language, and oral language and reading.

201. Shuy, Roger W. Whatever Happened to the Way Kids Talk? Paper presented at the National Conference on the Language Arts, Philadelphia, April 1969, 19p. [ED 030 095]

Language arts teaching is supposed to be based on the principle of starting where the child is and communicating to him through channels which he has at that point, in language which is familiar to him, and with illustrative concepts with which he is familiar. Beginning materials in this area, however, have made only minor strides to this goal, and these strides are not yet based on a theory of the relationship between oral and written language. The following suggestions are offered as a partial solution to this problem: (1) Textbook writers should provide beginning reading materials which use the syntax of the child's oral language and avoid ambiguity and rapid shifts in tense or viewpoint. (2) Teachers should recognize a hierarchy of importance in children's

reading and speaking errors. The child's errors in learning standard English should not be confused with his errors in learning to read. (3) Administrators should assess the classroom teaching situation to decide if the schools are putting restrictions on the normal use of oral language. They should also devote greater attention to matters of content in the curriculum. (4) Researchers should study the process of acquiring standard English. A "new language arts" is needed--one coordinated with a complete overhaul in the objectives of education. It will put considerable emphasis on self-instruction, it will stress the innate abilities of its students, it will be problem oriented, and it will encourage self-knowledge.

202. Singer, Harry. Language, Linguistics, and Learning to Read. Paper presented at the Annual Meeting of the International Reading Association, Detroit, May 10-13, 1972, 31p. [ED 063 582]

Productive application of linguistics to the field of reading has made necessary the formulation, revision, and expansion of theories and models of reading to incorporate relationships among stimulus characteristics of writing systems and response components of phonological, morphological, syntactical, lexical, and affective systems. These variables are mobilized and organized according to the purposes of the reader in order to process and transform surface characteristics of oral or printed stimuli into a structural form and level that could result in a semantic interpretation. Reviewed herein are selections from the voluminous research evidence leading to these changes in theories and models of reading, and implications of this evidence for reading theory and practice are discussed. A 121-item bibliography is appended.

203. Strang, Ruth. Reading. Dimensions in Early Learning Series. San Rafael, Calif.: Dimensions Publishing Co., 1968, 83p. [ED 027 070. Document not available from EDRS. Available from Dimensions Publishing Co., San Rafael, Calif. 94903 ($2.50)]

A volume of "The Dimensions in Early Learning Series," this monograph explores beginning reading. The introduction defines reading, and chapters 1 and 2 review reading development and discuss theory and hierarchy of reading development. How to evaluate reading achievement, ways to teach reading, and what parents can do to help are subjects considered. An annotated bibliography and a list of instructional materials are included.

204. Strickland, Ruth G. The Language of Elementary School Children--Its Relationship to the Language of Reading Textbooks and the Quality of Reading of Selected Children. Bulletin of the School of Education, Indiana University; 38 (July 1962): 147p. [ED 002 970]

This study was designed to (1) analyze the oral language structure of first- through sixth-grade children, (2) compare that structure with the language structure in books by which children are taught to read, and (3) ascertain, at the second-grade level, the influence

of any determined differences on the quality of reading, reading interpretation, and listening skills of children. The oral language of almost 600 children was first recorded and then analyzed for syntactic structure. These language patterns were then compared to those used in certain sets of reading textbooks and to specific predetermined standards of reading quality. Results from an analysis of these data showed great flexibility in the oral language patterns used by the subjects. It seemed safe to conclude that children learn the basic structures of their language at an early age. Findings also showed that the oral language children use is far more advanced than the book language in which they are taught to read. Further study was recommended to determine whether or not book language, used currently in the elementary reading curriculum, should be modified to the levels at which students speak. It was also suggested that additional work be done in helping children to recognize and understand the entire phonemic scheme of English so as to turn the stimulus of printed symbols into oral language patterns for both comprehension and interpretation. No evidence was obtained in this study regarding the relationships existing between a child's use of speech patterns and the number of grammatical errors in speaking.

205. Thornton, John T., Jr. Phasing Reading Development with Child Development: A Plea. 1972, 9p. [ED 063 595]

Studies of beginning reading sponsored by the U.S. Office of Education indicate that teachers, not methods, account for the major differences in the results of instruction and that reading instruction can be improved via combinations of methods. Consequently, teachers should be free to select materials and methods most appropriate for children for whom they are responsible. In planning instruction so that the child's reading development phases with his overall development, the teacher should keep several basic considerations in mind: (1) development and maintenance of a positive self-image are vital to the child's academic growth as well as to his personality development; (2) children differ in their preferred sensory modes of learning; (3) programed materials do not provide opportunities for a child to question, share ideas, react to situations, or test ideas on others; and (4) some research indicates that differences in interest patterns are more important to reading development than those of age, sex, intelligence, or reading achievement. Providing properly for that difference involves presenting materials which both match the child's interests and are capable of broadening and advancing them.

206. Walden, James, ed. Oral Language and Reading: Papers Collected from the 1967 Spring Institutes on the Elementary Language Arts. Urbana, Ill.: National Council of Teachers of English, 1969, 112p. [ED 029 026. Document not available from EDRS. Available from NCTE (Stock No. 26974, $1.95 nonmember, $1.75 member)]

How oral language is related to reading and how the English teacher can effectively exploit this relationship are the subjects of this

book. Walter J. Moore examines the role of the reading teacher and points out the value of this book for directing inservice education in linguistics. A knowledge of psycholinguistics in relation to the teaching of elementary language arts is discussed by John B. Carroll. Jean Berko Gleason outlines recent findings on how children use language at various age levels and relates these findings to teaching practices. Wick R. Miller discusses the reading-language acquisition relationship and suggests that teaching methods are less important than the child's personal initiative. Henry J. Sustakoski summarizes recent discoveries in linguistics and illustrates their relevance for English teachers. Three types of classroom problems involving linguistics and reading are examined by David W. Reed, and the reasons for using more than one English dialect are set forth by Roger W. Shuy. The function of oral language in language learning and some ways in which it can be combined with other aspects of the linguistic program are suggested by Walter Loban.

207. Waterman, David C.; Gibbs, Vanita M., eds. Oral Language and Reading. Proceedings of the Annual Reading Conference of the Department of Elementary Education at Indiana State University, Terre Haute, June 14-15, 1973, 74p. [ED 085 666. Also available from Curriculum R and D Center, Indiana State University ($1.00)]

This collection of speeches includes: "Official Program"; opening remarks, "They Led and Followed," by William G. McCarthy; opening address, "Strategies for Reading Comprehension," by Dorothy J. Watson; "The Folktale Is Alive and Well" by Charles Blaney; "Some Thoughts on Early Language Development" by Diane Brown; "The Play's the Thing" by Eva Chipper; "A Spoonful of Sugar" by Millie Ann Vaughn; "Monitoring Children's Reading Behavior" by Lucille Guckes; "Individualizing Reading" by Pearl Lee Nester; "The Use of Oral Language by the Diagnostic Teacher" by Lawrence L. Smith; and the closing address, "Pitfalls and Pleasures of Individualizing the Reading Program," by Priscilla Lynch.

Nonstandard Dialect

208. Cramer, Ronald L. Dialectology--A Behavior to Be Considered in Teaching Children to Read. Paper presented at the Annual Meeting of the International Reading Association, Anaheim, Calif., May 6-9, 1970, 15p. [ED 046 653]

Goodman's hypothesis that the task of learning to read is made more difficult as the divergence between the dialect of the learner and that of the material increases raises three questions considered by the author to be central to the dialect/reading issue. The first asks what influence dialect has on acquiring reading ability; the second asks what solutions have been suggested and explored; and the third asks what other solutions there might be which have not been attempted. The author discusses three basic alternatives

which have been suggested: (1) to write initial reading materials in dialect, (2) to teach standard spoken dialect before teaching reading, and (3) to use standard materials but to accept nonstandard rendering of these materials. He then recommends as superior a fourth alternative, the language experience approach. Through such an approach, children would tell stories and the teacher would write them in dialect. This would insure that no divergence would exist between child language and materials. As facility is acquired in reading dialect materials, so would facility in reading standard materials be increased. References are included.

209. Dankworth, Richard T. Educational Achievement of Indian Students in Public Secondary Schools as Related to Eight Variables, Including Residential Environment. Final Report. Logan: Utah State University, 1970, 95p. [ED 042 526]

The objective of the research was to determine the relationship of eight variables to the educational achievement of 178 Indian public secondary school students in Nevada. The eight variables were residence environment, mental ability, reading ability, anxiety, self-concept, achievement motive, verbal concept choice, and interaction with the dominant culture. The independent variable, residence environment, included the rural reservation, the urban colony, and the multi-ethnic community. The dependent variable, educational achievement, was measured by performance on the California Achievement Test. Eight test instruments were used to test 2 hypotheses: (1) that there is a significant relationship between the variables acting together and the educational achievement of Indian students and (2) that a significant contribution is made by each variable to the variability of educational achievement when the other variables are held constant. In addition, the following question was asked: Which of the variables can be removed and still maintain the relationship found in testing the first hypothesis? There was a significant correlation (.01 level) between achievement and the 7 variables acting together. Individually, 4 variables were found to contribute more significantly to the variability of achievement than the others. Reading ability was the variable later excluded from the analysis.

210. Entwisle, Doris R. Semantic Systems of Minority Groups. Baltimore, Md.: Johns Hopkins University, Center for the Study of Social Organization of Schools. 1969, 49p. [ED 030 106]

Because socialization in terms of language behavior is the pivot for all other socialization, great emphasis is being placed on the linguistic determinants of cognition, and the influence of parents' language on child language and cognition. The same life conditions that foster dialect differences may be presumed to lead to semantic differences. At simple levels of discourse, difficulties in communication may be minimal, but semantic differences, when added to phonological and dialect differences, may have very serious consequences for the reading instruction of young children. Much evidence suggests that from first grade on there are widening gaps

between the language of children from poverty environments and those from middle class groups. Word association research suggests specific kinds of deficits, particularly in consolidation of verbs and adverbs. There may be a lack of environmental forces to encourage semantic development which not only causes reading deficits but rules out reading as a source of semantic enrichment. The author describes studies in word association of black and white inner city children, compared with rural Maryland and old order Amish children. She suggests developing semantic structures through school games which provide drill on particular skills, and more mixing of students in the school and the community.

211. Everttts, Eldonna L., ed. Dimensions of Dialect. Urbana, Ill.: National Council of Teachers of English, 1967, 78p. [ED 030 632. HC not available from EDRS. Available from NCTE (Stock No. 24903, $1.40 nonmember, $1.25 member)]

This collection of articles discusses social dialects, the problems that dialects cause the disadvantaged, and how these problems can be overcome in curriculum planning and classroom practice. Articles are (1) "English: New Dimensions and New Demands" by Muriel Crosby, (2) "A Checklist of Significant Features for Discriminating Social Dialects" by Raven I. McDavid, Jr., (3) "Poverty, Early Language Deprivation, and Learning Ability" by F. Elizabeth Metz, (4) "A Head Start in Language" by Rose Mukerji and Helen F. Robinson, (5) "Understanding the Language of the Culturally Disadvantaged Child" by Eddie G. Ponder, (6) "Vocabulary Deprivation of the Underprivileged Child" by Edgar Dale, (7) "Dialect Barriers to Reading Comprehension" by Kenneth S. Goodman, (8) "Using Poetry to Help Educationally Deprived Children Learn Inductively" by June Byers, (9) "Talk Written Down" by Lila Sheppard, (10) "Teaching Language and Reading to Disadvantaged Negro Children" by Allison Davis, (11) "Teaching English to Indian Children" by Hildegard Thompson, and (12) "Annotated Bibliography of Books for Elementary Children in English and Foreign Language Editions" by Eldonna L. Everttts.

212. Labov, William. A Study of Non-Standard English. Washington, D.C.: ERIC Clearinghouse for Linguistics and the Center for Applied Linguistics. 1969, 75p. [ED 024 053]

American education has always considered the non-standard or sub-standard form of speech used by children to be an imperfect copy of standard English. The defects of this approach have now become a matter of urgent concern in the face of the tremendous educational problems of the urban ghettos. This paper reverses the usual focus and looks directly at non-standard English--not as an isolated object in itself, but as an integral part of the larger socio-linguistic structure of the English language. To do this, the author first presents some linguistic considerations on the nature of language itself, and then a number of sociolinguistic principles which have emerged in the research of the past ten years. The relation of non-standard dialects to education is reviewed, bearing in mind that the fundamental role of the school is to teach the

reading and writing of standard English. Finally, the author turns to the question of what research teachers and educators themselves can do in the classroom--the kind of immediate and applied research which will help them make the best use of teaching materials. The author hopes that this paper will put the teacher directly into touch with the students' language, help him to observe that language more directly and accurately, and enable him to adjust his own teaching to the actual problems that he sees. A 36-item bibliography covering all areas of the paper is included.

213. Leaverton, Lloyd. Should Non-Standard Speech Patterns Be Used in the Urban Language Arts Curriculum? Speech presented at the English-Black and White Conference, Purdue University, March 1971, 12p. [ED 060 700]

The problem of teaching standard English reading and language skills to children who speak nonstandard dialects can be facilitated through a language program that distinguishes between "everyday talk" and "school talk," while recognizing the position of both types of speech. The instructional materials must be meaningful with respect to the experiential background of the learner. At no time during the learning situation should the child be given the impression that his basic, established speech patterns are inferior speech. In this particular language program, verb usage constitutes the area of distinction between the two types of language, and the instructional procedures and practices described here emphasize those differences. Research indicates that if the children's established speech forms are accepted as legitimate forms of communication while those speech forms used in school by the teacher and observed in the books are systematically introduced, the children readily accept and enjoy learning the speech forms traditionally fostered by the school. For related document, see ED 060 701.

214. Levy, Beatrice K. Language, Dialect, and Preprimers. Paper presented at the Annual Meeting of the International Reading Association, Denver, May 1-4, 1973, 13p. [ED 079 699]

In an effort to resolve some of the problems of widespread reading failure, this report investigated the way in which the language of inner-city black first graders corresponded to the language of beginning reading texts and whether or not dialect features occurred consistently in the children's speech. Twenty first grade black children were invited to select one or more picture books from a display and tell stories suggested by the illustrations. These stories served as the data base from which the language of books normally used as reading texts ("Now We Read," "In the City," and "Ready to Roll") was analyzed. Results indicated poor correspondences between words used in beginning reading instructional materials and those which are familiar to beginning readers. Clearly the children's oral language is more complex than that used in the books. Furthermore, the children were not consistently speakers of Black English--many of them produced Standard English equivalents for the dialect forms which have been reported by linguists,

suggesting that dialect by itself is not likely to present serious difficulties in beginning reading instruction.

215. Politzer, Robert L.; Hoover, Mary R. The Development of Awareness of the Black Standard/Black Nonstandard Dialect Contrast among Primary School Children: A Pilot Study. Research and Development Memorandum Number 83. Starford Calif.: Stanford University School of Education and the Stanford Center for Research and Development in Teaching, 1972, 22p. [ED 062 464]

This experiment, which was sponsored by USOE, deals with a test of auditory discrimination between standard black English and nonstandard black English. The test consists of two sections, one emphasizing phonological variables and the other emphasizing grammatical variables. It was administered to 83 black and 71 white children who were second, fourth, and sixth graders in schools attended primarily by children from lower to lower-middle class socioeconomic backgrounds. The analysis of variance of the test results showed that: (a) test scores increased with maturation; (b) girls performed generally better than boys; and (c) black children performed better than white children. For black children, achievement on the tests correlated significantly with scores on standardized reading achievement tests at all grade levels. For white children, the correlations were significant only at the sixth-grade level. The results of the experiment indicate that the awareness of the standard/nonstandard difference is more highly developed in black children than in white children--perhaps as a result of training, perhaps as a result of greater exposure to both standard and nonstandard black speech. They also suggest that for black children recognition of the difference is related to reading achievement in standard language from the beginning of their school career.

216. Rystrom, Richard. The Effects of Standard Dialect Training on Negro First Graders Learning to Read. Final Report. Concord, Calif.: Diablo Valley College, 1968, 123p. [ED 029 717]

This study was conducted to explore the idea that the Negro Dialect operates as a source of interference in the acquisition of reading skills by Negro children. Two first-grade classes from an Oakland, California, inner city school were chosen to participate in this experiment. The pupils were all pretested. Half of them were then randomly chosen to be the experimental group and subsequently received special dialect lessons in certain features of standard English. The control pupils received no special lessons. It was hypothesized that (1) in eight weeks, Negro children could be taught to use elements of standard English dialect which did not occur in their native dialect; (2) this knowledge would have a positive and significant influence on their word reading scores; and (3) dialect lessons would have a positive and significant influence on scores of word reading tests in which the relationship between letters and sounds was controlled. Posttests were administered to all the pupils at the conclusion of the program. On the basis of this testing, all three hypotheses were rejected.

Affective Behavior

217. Athey, Irene. Affective Factors in Reading. Paper presented at the International Reading Association Conference, Kansas City, April 30-May 2, 1969, 29p. [ED 031 377]

A discussion of the role of affective factors in reading within the framework of the substrata factor theory is presented. The substrata factor theory and theories of the intellect are briefly discussed, and the absence of affective factors in these theories is pointed out. These affective factors are seen as influential in the individual's working system for solving problems, including the problem of learning to read. Learning to read is viewed as a developmental task imposed by society at the time the child enters school, and his previous history in coping with earlier problems and challenges is concluded to influence his approach to this latest task. Research studies discussing such affective factors as self-concept, autonomy, anxiety, an accurate perception of reality, environmental mastery, and attitudes toward learning are reviewed, with emphasis on their influence on learning to read. The need for greater clarification of education objectives in the affective domain and better methods for evaluating the accomplishment of these objectives is noted. A bibliography is included.

218. Athey, Irene J.; Holmes, Jack A. Reading Success and Personality Value-Systems Syndrom--A Thirty-Year Then and Now Study at the Junior High School Level. Final Report. 1967, 121p. [ED 026 547]

Erikson's theory on the development of a healthy personality is integrated with Holmes' theory of reading in order to derive a testable hypothesis regarding the contribution of specified personality characteristics to reading success and to validate the findings. The study was conducted in the following three phases--the construction of new scales composed of personality items which significantly differentiated good and poor readers at the ninth-grade level in 1936, a longitudinal application of these scales to the same sample of students when they were in the seventh, eighth, and ninth grades in 1933 and 1934, and a cross-sectional replication after 30 years. Five samples were used. Two (N's = 160 and 130) were drawn from the longitudinal study (1933-35) at the Institute of Human Development, University of California. Three comparable samples were selected from grades seven, eight, and nine in 1966. Specific personality characteristics hypothesized from an integrated Erikson-Holmes theory were consistently related to reading in the seventh, eighth, and ninth grades, and for two similar groups 30 years later. The report includes tables, figures, the self-interest inventory, and a bibliography.

219. Ballentine, Larry; Levine, Daniel U. Research Note: Home Environment and Reading Performance among Afro, Anglo, and Mexican Kindergarten Students in an Inner City School. Kansas City: University of Missouri, Center for the Study of Metropolitan

Problems in Education, 1971, 8p. [ED 058 943]

This exploratory study examined the relationship between reading performance scores and three measures of home environment among kindergarten students of differing racial and ethnic backgrounds. It also determined whether there was evidence that participation in a follow-through program had been effective in overcoming educational disadvantages associated with nonsupportive home environments. Subjects in the study were kindergarten students who had finished their first year in a follow-through program; eleven were Mexican-American, ten were Anglo-American, and nine were Afro-American. Four of the Mexican-American, seven of the Afro-American, and four of the Anglo-American students had been in a pre-kindergarten Head Start program the year before. Home environment measures used were: (1) a modified 40-item version of the Dave and Wolf interview schedule for assessing home influences on achievement and intelligence; (2) interviewer's rating of the orderliness of the living room in each subject's home; and (3) the frequency with which the subject's mother attended church. Results show the strongest correlations between home-environment measures and reading level were among the Anglo-American and Afro-American students. Most important of the findings was that measures of home environment correlated with reading level among the sample of economically disadvantaged students finishing kindergarten.

220. Bemis, Katherine A.; Cooper, James G. Teacher Personality, Teacher Behavior and Their Effects upon Pupil Achievement. Final Report. Albuquerque: New Mexico University, College of Education, 1967, 156p. [ED 012 707]

Sixty urban, middle-class, fourth-grade teachers in the Southwest were given the Edwards Personal Preference Schedule (EPPS) as a measure of personality. Their classroom behavior was then recorded on a teacher observation personality schedule reflecting Edwards' definitions of his needs for achievement, abasement, affiliation, dominance, change, orderliness, and heterosexuality. Pupils' achievement was measured as their adjusted gain scores between fall and spring testing on five subtests of the Science Research Associates Achievement Tests--arithmetic reasoning, arithmetic concepts, arithmetic computation, reading comprehension, and reading vocabulary. Canonical analysis of the three sets of data showed relationships between them. It was found that (1) no single teacher behavior was detrimental or favorable for all learning, (2) the EPPS scores established a basis for predicting teachers' observed classroom behavior, (3) the pattern of predicted behaviors did not closely follow that revealed as contributing to pupil gains, (4) from EPPS, the more effective teachers (in terms of pupil gains) may be described as critical, willing to accept leadership, and interested in persuading and influencing others. It was concluded that the paradigm "teacher personality causes teacher behavior causes pupil behavior" was supported, but that the linkages are complex, and not one to one.

221. Bullen, Gertrude F. A Study in Motivating Children to Read. Paper presented at the Conference of the American Educational Research Association, Minneapolis, March 2-6, 1970, 23p. [ED 040 018]

A determination as to whether more positive attitudes toward reading could be developed in elementary school children who, because of economic and cultural factors, had limited experience with books, was sought in this study. Children from nonreading backgrounds were selected to take part in a books exposure program which supplemented the school's basic reading program. There were three experimental and three control classrooms at each grade level from 1 through 5. Each week teams of three volunteers visited the experimental classrooms to work with small groups of ten or less children. They tried to arouse and strengthen the children's interest in books. No volunteers worked with the control groups, but each of those classrooms contained a set of books which the children were allowed to take home. An attitude instrument was designed to measure the children's attitudes toward reading at home and at school, visiting the library, and buying books and receiving books as gifts. The program positively affected the attitudes of those children exposed to the experimental situation. Tables are included.

222. Burgett, Russell E. Pupil Accountability and Reading. Paper presented at the Annual Meeting of the International Reading Association, Detroit, May 10-13, 1972, 9p. [ED 063 085]

In a study utilizing high school sophomores with reading problems and their tutors it was found that significant changes occurred when students were taught to identify and classify their own reading errors as a regular part of a corrective and remedial reading program. The instructional program began with the students analyzing their results on a standardized reading test. From this analysis they formulated general reading goals. Skills packages employing self-correcting formats were utilized in meeting general and specific reading needs. Study questions with "key words," or concept words, were used to scan literature and determine answers. If tutorees needed extra word identification skills, they could select skills packages to study. Students' oral reading was recorded and errors were noted and classified by the tutor. Gradually students were asked to detect and classify their own oral reading errors. Such self-evaluative procedures encouraged students to engage in more frequent assessments of reading performance, conserved teacher time for instruction, promoted student self-competition, and encouraged a more amenable attitude on the part of students toward teacher suggestions for improvement. References are included.

223. Burris-Meyer, Harold. An Inquiry into the Educational Potential of Non-Verbal Communication. Final and Interim Reports. Boca Raton, Fla.: Florida Ocean Sciences Institute, 1970, 176p. [ED 045 631]

This document contains eight progress reports of a research project testing the assumption that communication at the nonverbal level affects a student's emotional involvement in the material he studies and thus the learning process itself. The project attempted to establish the educational potential of nonverbal communication by measuring emotional responses of students (K-college) to stimuli (music, slides, sounds, color, light, film) with a polygraph and an instrument (the encabulator) developed and tested specifically for the program. It simultaneously applied nonverbal communication techniques to a peer-teaching program for disadvantaged students. Some conclusions reached by the study were that (1) teaching via the arts, in combination with peer to peer techniques, is effective in developing and improving spelling and reading programs and (2) nonverbal communication techniques--which require no special training--are particularly effective in motivating the disadvantaged and result in improved learning rates, consistent attendance, and improved classroom behavior.

224. Carmichael, Carolyn W. Books to Meet the Needs of Teen-Agers. Paper presented at the Annual Meeting of the International Reading Association, Denver, May 1-4, 1973, 28p. [ED 079 709]

Teenagers are a unique group of people regarded with as little seriousness as possible by some and with intense seriousness by others. Many of their problems, concerns, and needs are reflected through and can be observed in books; among these are parent relationships, the search for a belief or purpose in life, the unknown, the bizarre and supernatural, the occult, religion, the Jesus revolution, self-expression, ethnic identity and human dignity, rock music, drugs, women's struggles, and sex. The youth of today don't hesitate to question values. Books are needed which are designed for young adult readers--books that can answer the many needs of today's teenagers. (Included are several book descriptions and a list of 95 "Books to Meet the Needs of Teenagers.")

225. Carroll, Hazel Horn. Affect Domain and Reading "Affective Teaching Strategies at the Elementary Level." Paper presented at the Annual Meeting of the International Reading Association, New Orleans, May 1-4, 1974, 10p. [ED 091 661]

This paper discusses affective strategies for teaching reading at the elementary school level. The contents include "Use of Newspaper," which presents a chart of reading skills to be used by the teacher and provides such suggestions for developing interest in the newspaper as having a newspaper editor visit the classroom, role playing as advertising salespeople, and writing a class newspaper; "Listening Stations Enjoyable," which discusses how to use listening stations to develop oral vocabulary, to provide students with practice in visualization, and to involve students in poetry study; "Applying Word Attack," which discusses a strategy of word identification using a formula; "Television Programs Used," which looks at educational television programs and how they can be used to develop imagination, to teach reading, and to provide situations

for dramatization; and "Conclusion."

226. Cooper, Georgia; Anastasiow, Nicholas. Moving into Skills of Communication. Bloomington: Indiana University, Institute for Child Study, 1972, 257p. [ED 063 012]

A manual concerned with communication and the development of communicative skills in general is presented. Specifically, it deals with the significance of speech in its relation to reading. The point is made that a child's awareness of self as an individual and as a worthy human being emerges in direct relation to this ability to express himself. It also is pointed out that all experiences hold potential for extending language power and for exercising vocal and verbal skills. The manual is divided into two parts. The types of activities contained in part one and included in a total kindergarten program are considered essential for all children. Part two covers the following areas: Middle Class Children of Average Maturity, Children Speaking Negro Nonstandard English, Children Speaking Little English and Those Lagging in Speech Development, and Head Start Groups.

227. Dauterman, Philip. Dogmatism and Reading: The Effects of Dogmatism upon Reading Comprehension, Amount of Voluntary Reading, and Response to a Literary Selection. Alberta, Canada: Lethbridge University, 1970, 68p. [ED 045 671]

Two purposes underlay this study--to determine the relationship between closed-mindedness and reading comprehension and to test a particular rationale for the teaching of literature. Serving as background material were research findings in three areas: (1) dogmatism, tests of dogmatism, the Rokeach Dogmatism Scale, and education-oriented research upon dogmatism; (2) the effect of attitudes upon reading comprehension and upon interpretation of literature; and (3) tests of literary appreciation and the analysis of responses to literature. Twenty sample students, from similar socioeconomic backgrounds and with similar intellectual abilities, were administered the Davis reading test (DRT), after which they read and recorded their spontaneous responses to "The Secret Room" by Alain Robbe-Grillet. Open-minded students were found to have higher DRI reading comprehension scores and to read voluntarily a greater number of books than closed-minded students. No appreciable differences were found in the students' written responses to the short story. Tables of findings, a summary and code list of the Purves schema for literary responses, and a bibliography are appended.

228. Development of Taste in Literature. Champaign, Ill.: National Conference on Research in English, 1963, 56p. [ED 024 686]

Developing literary taste in the elementary grades through the senior high school is examined in the four articles of this bulletin. Nila Banton Smith examines the need for improving taste, notes the dearth of current research on this subject, and indicates where

further research must occur. Helen Huus discusses elements inherent in the development of taste in the elementary grades, presents methods of improving student taste, and defines some questions that need to be answered. Leonard W. Joll reviews studies related to the development of taste in the junior high school and points out promising teaching practices. Angela M. Broening takes up factors affecting taste in the senior high school and discusses literary materials, teaching methods, and tests appropriate to this age group. A bibliography is appended to each article.

229. Dietrich, Dorothy M. Using Videotape to Motivate Junior High Students to Read. Paper presented at the Annual Meeting of the International Reading Association, New Orleans, May 1-4, 1974, 11p. [ED 090 497]

A recent study was made by classroom teachers to determine why junior high school students were having difficulty in learning to read. More than half of the students who read below grade level appeared to lack motivation. A closed circuit television system was combined with other materials--including kits, books, listening centers--and called the Graphics Expression Reading Improvement System (GERIS). The teacher's objective was to help students improve their reading skills and to provide practice in using these skills effectively. Each student's objective was to produce a tape that he could show to classmates of his parents. The GERIS program utilized an eight-step process in which help was given in the reading lab on a one-to-one basis, and students were programed into those skills and materials they needed most. The program to this point has been successful in motivating students to read.

230. Forsberg, James R. Accountability and Performance Contracting. Analysis and Bibliography Series, No. 13. Eugene, Ore.: ERIC Clearinghouse on Educational Administration, 1971, 15p. [ED 055 336]

Intended for both researchers and practitioners, this review analyzes literature on educational accountability and performance contracting. It defines the concepts, describes certain individual contracts completed or in progress, discusses the use of management systems and safeguards, identifies some testing and measurement problems, and probes some legal aspects of performance contracting. A 44-item bibliography of relevant literature is included.

231. Gaa, John Powers. Goal-Setting Behavior, Achievement in Reading, and Attitude toward Reading Associated with Individual Goal-Setting Conferences. Part 2. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1970, 82p. [ED 047 921]

Part 2 of a study designed to investigate the effects of individual goal-setting conferences on attitude toward reading and on reading achievement reports discussion of the findings, appendixes including materials and tests used, and a bibliography. Two parallel studies

were conducted, the first using third and fourth graders and the second using first and second graders. Subjects were blocked by sex and previous reading achievement and assigned to three treatment groups: (1) individual goal-setting conferences, (2) individual conferences without goal-setting, and (3) control. All groups had the same classroom treatment. Reading achievement was tested by an experimenter-devised test and by appropriate subtests of the Wisconsin Tests of Reading Skill Development. Attitude was measured by the primary pupil reading attitude inventory and by an experimenter-devised scale. Effects of goal-setting were also measured. The results showed that pupils in group 1 set fewer goals, experienced less discrepancy between goals set and achieved, but also indicated less confidence in the ability to achieve goals. With respect to reading achievement, younger children showed significant differences on standardized and experimenter-designed measures, but older children did not. No significant differences in attitude were found.

232. George, John E. Fixed- and Variable-Ratio Reinforcement of Reading Performance. Paper presented at the National Reading Conference, Atlanta, December 4-6, 1969, 11p. [ED 035 534. Document not available from EDRS. Available in the Nineteenth Yearbook of the National Reading Conference]

The effects of fixed-ratio and variable-ratio reinforcement classroom reading performance were investigated. Subjects were 50 boys and 50 girls from four second-grade classrooms of one elementary school. The subjects were divided into three reading levels, above-average, average, and below-average, and were randomly assigned to (1) a no-reinforcement group, (2) a low fixed-ratio group, (3) a high fixed-ratio group, and (4) a high variable-ratio group. Students responded to programed materials during a five-week period. Reinforcement consisted of red foil stars which were exchanged for pennies at the end of each 60-minute session. The pennies could be kept or used in a candy vending machine. An analysis of absolute differences revealed a highly significant trend. Above-average readers responded better to reinforcement and better to frequent reinforcement than low frequency reinforcement. Consistency of reinforcement was also preferred. Average and below-average readers seemed to favor the reinforcement group in which neither the above-average, average, nor below-average subjects received rewards for their reading performance. Tables are included.

233. Guthrie, John T. Motivational Effects of Feedback in Reading. Baltimore, Md.: Johns Hopkins University, Center for the Study of Social Organization of Schools, 35p. [ED 042 590]

The effects of feedback on motivation were investigated with a 3 x 3 factorial design. Adult subjects (72 male college students) read prose sentences and completed cloze test items. Feedback on each item was either immediate, delayed, or omitted. A cloze retention test over the sentences was either given immediately, delayed, or omitted. To assess motivation, the subjects were given a

continuation of the original passage which they read for as long as they wished. The time spent reading was recorded as a measure of perseverance and motivation. The results indicated that (1) delayed feedback produced significantly more learning on the original task than did immediate feedback, (2) immediate feedback produced significantly more perseverance on the continuation passage than did delayed feedback, and (3) perseverance on the continuation passage was positively correlated (.46) with scores on a comprehension test over the continuation passage. The results are explained in terms of differential affective responses acquired to the reading task under different feedback conditions. Tables, references, and appendixes are included.

234. Iverson, William J.; and others. Development of Lifetime Reading Habits. Newark, Del.: International Reading Association, 1968, 85p. [ED 085 687. Also available from IRA (Order No. 703, $2.50 nonmember, $2.25 member)]

This bulletin describes the nature and development of reading habits at elementary, secondary, college, and adult levels and offers suggestions for improvement. An appreciation of literary forms, taught in precise vocabulary, should be included in elementary instruction. The teaching of reading skills should be continued and developed in intermediate grades. Content area teachers in the secondary schools can most effectively teach such reading skills as vocabulary, rate adjustment, skimming, browsing, and the "skills of involvement." Critical and creative reading should be developed as separate functions at the secondary level. The reading habits of college students can be improved through the development of critical reading, reading flexibility, and context vocabulary. There is a trend toward lessening interest in reading through adulthood. Catalogs of children's books are listed. Sample topics of interest to a group of fourth graders are accompanied by suggested titles and a bibliography of children's books. Two appendixes of ideas, appropriate for primary and intermediate grade students, for developing lifetime reading habits are verbatim reports by elementary teachers. (This document previously announced as ED 023 560.)

235. Jackson, Raleigh Napoleon. A Study of Six Personality Factors in Reading Achievement. Ph.D. Dissertation, The Ohio State University, 1972, 95p. [ED 065 853. Document not available from EDRS. Available from University Microfilms (Order No. 72-20, 969)]

The purpose of this study was to determine how reading achievement is affected by six independent personality factors (PF) exhibited by second-grade pupils. Personality factors involved are: (1) reserved vs. outgoing, (2) less intelligent vs. more intelligent, (3) feelings vs. emotionally stable, (4) phlegmatic vs. excitable, (5) obedient vs. assertive, and (6) sober vs. happy-go-lucky. Data were collected by administering to 325 randomly selected pupils the Early School Personality Questionnaire and Stanford Reading Achievement Test, Primary 1 and 2. The results indicated that although each personality factor discriminated among groups, only

the intelligence personality factor 2 was significant at the .05 level. Approximately 22 percent of reading variance may be accounted for in the combined six personality variables, with factor 2 contributing 20 percent. Subjects in Non-Title 1 schools score significantly higher than subjects in Title 1 schools, and these differences tend to widen with age.

236. Jacobson, Milton D.; Johnson, Joseph C. The Relationships of Attitudes to Reading Comprehension in the Intermediate Grades. 1967, 26p. [ED 012 676]

In a study to determine the effect of attitudes on learning, the literal and interpretative comprehension abilities of intermediate grade children on thematically based reading selections were compared with their attitudes toward that material. Three of the most common reading themes inherent in children's stories were determined by a panel of graduate students, university professors, and the investigators who conducted a survey of the literature. At each grade level, three stories were selected for each theme. Subjects were 285 children in grades 4, 5, and 6 in Albemarle County, Virginia. Each child read nine stories. An attitude inventory was constructed for each theme using procedures recommended by Thurstone. For each story, comprehension tests of ten literal and ten interpretive questions were administered. An analysis of the data led to the following conclusions. The importance of attitudes in improving comprehension was questionable. When different variables were controlled, attitudes appeared not to function appreciably in intermediate grades and to function differently for literal and interpretative comprehension. Literal and interpretative comprehension were differentially affected by sex. Relationships between attitude and comprehension were unaffected by race or socioeconomic status. Tables and a bibliography are included.

237. Jesser, David L. Promising Practices for Improving Classroom Atmosphere and Pupil Motivation for Learning. Volume I: Language Arts. Carson City, Nev.: State Department of Education, 1967, 122p. [ED 058 242]

The several practices described in this volume represent attempts by classroom teachers of Nevada, participating in the Western States Small Schools Project, to solve some of the educational problems with which they are confronted. These practices are discussed under the following headings: Helping Teachers to Help Children Learn and Use Phonics; Teaching the Alphabet in the Kindergarten; Teaching Blends in Phonics; Improving Reading; Individualized Reading; Helping Children Be Better Readers through Individualized Reading; The Language Experience Approach to Reading; Developing and Increasing Interest in Reading; Creating a Desire to Write; Creative Writing; A Beginning Unit on Creative Writing in the Sixth Grade; Improving Creative Writing on a Junior High Level; Improving Expression in Written Composition; Improving Self-Expression; Read for Fun to Improve Oral Expression; Improving Oral Expression; Improving Ability in Oral Reports; Teaching

Vocabulary through Creative Writing and Oral Expression in Grades VII and VIII; Improving Teaching Vocabulary Building; Using Writing Assignment Sheets that Provide Choices in Individualized English Literature; and Helping Slow Readers.

238. Kelley, Earl C. Humanizing the Education of Children: A Philosophical Statement. A Study/Action Publication. Washington, D.C.: Elementary, Kindergarten and Nursery Education, 1969, 25p. [ED 035 072. HC not available from EDRS. Available from National Education Association (Stock No. 281-08872, $0.75, quantity discounts)]

This booklet of short essays on humanizing the education of children was printed to help elementary educators focus on the main purpose for their being--to help children fully realize their humanity. The author's educational philosophy and its applications are covered by such subjects as the individual in a democracy, the meaning of freedom, the problem-solving method, the importance of cooperation, and involvement and citizenship.

239. LaRocque, Geraldine E. Must Johnny Read? Speech delivered at the Reading Conference, Montclair, New Jersey, State College, 1971, 27p. [ED 074 435]

The first part of this address offers alternative answers to the question, "In this age of multi-sensory media from which we can learn of the past, the present, and the future in other ways than the written word, must everyone learn to read?" Data from recent research reports by Edmund J. Farrell, Jean Symmes, Judith L. Rapoport, and the author are offered as support for the position that reading is not as essential for today's children as it was for their parents. The last portion of the address talks about a number of ways to help poor or non-readers learn--for example, through the use of films, slides, records, cassettes, simulation games, video tape, photographs, and computer-assisted instruction.

240. Lillich, Joseph M. Comparison of Achievement in Special Reading Classes Using Guidance, Skill-Content, and Combination Approaches. Paper presented at the Annual Meeting of the International Reading Association, Boston, April 24-27, 1968, 11p. [ED 027 143]

A study was conducted in six Indiana elementary schools to determine whether there was a significant difference between the scores of remedial reading students on three evaluative tests as applied to the skill-content, guidance, and combination approaches of teaching reading. The skill-content approach was aimed directly at teaching reading skills. The guidance approach did not specifically include or exclude skills typically included in teaching children in special reading classes; it was concerned with answering pupil questions about reading skills, understanding self, or social and emotional adjustment. The combination approach combined these two methods. The results of the evaluative tests used--the California Reading Test, the Gray Oral Reading Test, and a special reading teacher rating scale--suggested that focusing on guidance provides experiences

for students in special reading classes that lead to initially higher performance on reading achievement tests. This student enthusiasm for reading presumably can be followed profitably by the direct teaching of necessary reading skills. Statistical procedures and tables are included in two appendixes.

241. Marliave, Richard Scott. Attitude, Self-Esteem, Achievement, and Goal-Setting Behavior Associated with Goal-Setting Conferences in Reading Skills. Report from the Project on Variables and Processes in Cognitive Learning. Madison: University of Wisconsin, Research and Development Center for Cognitive Learning, 1970, 127p. [ED 057 404]

Fourth-grade students who had not previously mastered certain reading skills were classified according to level of previous reading achievement and randomly assigned to three treatment groups: (1) goal-setting conference, where subjects met weekly with a monitor and chose goals for the coming week from a prepared list, receiving feedback and reinforcement related to their success in achieving those goals; (2) conference-only group, who met with the monitor to review the experimental skills, but set no goals; and (3) the control group, who had no conferences but received the same classroom instruction as the others. Attitude, self-esteem, and achievement were measured following four weeks of treatment, after which both the goal-setting and conference-only groups set goals. The results of the study were: (1) no significant differences were found for the effect of treatment; (2) previous level of achievement was significant in terms of attitude, self-esteem, achievement, and goal-setting behavior; and (3) there were not significant effects due to the interaction of treatment by previous level of achievement.

242. Miller, Chloeann, comp. Research on Elementary Reading: Interests and Tastes. ERIC/CRIER Reading Review Series, Bibliography 25. Bloomington, Ind.: ERIC Clearinghouse on Reading, 1970, 129p. [ED 042 593]

Recognizing the relationship between interests and tastes that exists in the reading selection process, studies concerning either interests or tastes or a combination of both are included in this bibliography. However, taste as an inherent factor in the selection process was rarely treated in the research. The major concern was an emphasis on enumerating or classifying what was read and, in a few instances, on evaluating the selection or discussing the readers' demands for quality. Studies included in part 1 were published from 1950 through 1969 and were organized into four sections: Preference Surveys, Interests and Tastes in Relation to Other Factors, Programs to Develop Interests and Improve Tastes, and Research Summaries. A descriptive abstract describes each entry in part 1. Part 2 includes citations and brief annotations for relevant documents published prior to 1950.

243. Motivating Interest in Reading. Newark, Del.: International Reading Association, Utah Council, 1971, 71p. [ED 083 547]

This yearbook is a collection of articles on the topic of motivating interest in reading. The articles are: "An Introduction to Recreational Reading in the Classroom" by Floyd Sucher, which discusses objectives, materials, setting, scheduling, and sharing activities; "New Words and New Meaning for Old Words" by Vermont Harward, Dan Bird, and Edith Stimpson, which looks at activities related to understanding word meanings; "Effective Classroom Reading Centers" by Ruel Allred and Floyd Sucher, which discusses the rationale, practical suggestions for developing reading centers, types of classroom reading centers that are possible, and use of a reading center; "Techniques for Implementing Recreational Reading Programs" by Della McClellan and Ruel Allred, which provides 20 techniques for motivating children to reading; "Helping Children Develop Interest in Reading," which lists 38 suggestions and experiences adapted to various ages and grade levels for parents to use with their children; "Steps to Interest and Motivate the Reluctant Junior High Student in Reading" by Deon Stevens, which identifies characteristics of the unmotivated reader; and "Parent Involvement in Teaching Reading to Junior High Students with Reading Problems," which looks at the initiation of a reading program using parents to motivate their children to read.

244. Niedermeyer, Fred C. Parent-Assisted Learning. Inglewood, Calif.: Southwest Regional Educational Laboratory, 1969, 44p. [ED 042 588]

The effects of parent-monitored practice at home on pupil performance in reading were investigated. The study used as instructional vehicles the Parent-Assisted Learning Program (PAL) and the Southwest Regional Laboratory's (SWRL) First-Year Communication Skills Program. PAL was designed to enable school personnel to establish a system whereby parents effectively instruct their primary-grade children in basic skills at home. Programmed materials, called practice exercises, and carefully prescribed training procedures were developed to be used by parents or other nonprofessionals. The results of a study made in three kindergarten classes indicated that the PAL and Communication Skills Program elicited high levels of parent participation and pupil learning. References are included. This study was sponsored by the DHEW National Center for Educational Research and Development.

245. Schultheis, Sister Miriam. Building a Better Self-Concept through Story Book Guidance. Paper presented at the Language Arts and Reading Conference, Ball State University, June 22-23, 1970, 6p. [ED 044 251]

Bibliotheraphy, identifying with a storybook character, is one of the best ways for a child to gain insight into himself and to have a better understanding of himself and others. To begin this technique, it is necessary for the teacher to become well-acquainted with children's books so that he may be able to give capsule summaries of appropriate stories when the right time comes. The teacher might also categorize books for easy access according to children's problems and needs. Such categories might include

problems of (1) appearance; (2) physical handicaps; (3) siblings, place in family, new baby; (4) acceptance by peer group or by oneself; (5) a typical unhappy home situation; (6) economic insecurity and unsettled living; (7) foreign or different backgrounds; and (8) need for diversion. Group guidance sessions are one of the best ways to introduce bibliotheraphy. Examples of books corresponding to children's needs and problems and references are included.

246. Swartz, Darlene J. Unruh. The Relationship of Self-Esteem to Reading Performance. Ed.D. Dissertation, University of Northern Colorado, 1972, 132p. [ED 066 723. Document not available from EDRS. Available from University Microfilms (Order No. 72-22, 417)]

The purpose of this study was to compare the self-esteem inventory scores of third-grade students with their scores from an informal reading inventory to determine whether there was a significant correlation between self-esteem and reading performance. The Self-Esteem Inventory, the Classroom Reading Inventory, and the Peabody Picture Vocabulary Test were administered to each student. Correlations, means, and standard deviation were computed. The results were: (1) instructional reading level was positively related to self-esteem; (2) the correlation between self-esteem and instructional level was not significantly different for boys and girls; (3) the relationship between self-esteem and reading was not significantly different for remedial readers and non-remedial readers; (4) the self-esteem of the students pertaining to school and home had a significant positive relationship to the instructional reading level; self and social self-esteem were not significantly related to the instructional reading level; (5) a positive correlation existed between hearing capacity level and the reading expectancy grade equivalent; and (6) mental age was positively related to the self-esteem for the total group.

247. Wark, David M. Emotional Problems in Study and Behavioral Methods for Treatment. Paper presented at the International Reading Association, Anaheim, May 6-9, 1970, 6p. [ED 045 298]

Emotional problems may be the motivation for many students to seek help at a college reading and study skills center. Many students appear to show actual physical and psychological discomfort when involved in the act of reading and studying. If tension creates a problem, then one would like to determine (1) how the student learned to be tense when reading and studying and (2) how that tension interferes with the student's effectiveness. A method of treatment for anxiety-generated reading problems is (1) to teach deep relaxation and (2) to relate that relaxation to the study condition. Examples of initial emotional problems in reading and treatment techniques are given. References are included.

248. Wark, David M. Relaxation and Desensitization in Study Behavior Modification. Paper presented at the National Reading Conference Workshop on College Reading and Study Skills, St. Petersburg,

December 2, 1970, 8p. [ED 046 663. HC not available from EDRS. Available in the Twentieth Yearbook of the National Reading Conference]

Individual contracts between the student and instructor are used as a means of modifying behavior in reading and study situations. Desirable behavior is described, and suitable performances of such behavior are outlined. Adult students agree to attempt to modify their behavior during a designated amount of time in order to meet their contracts. The rationale for such a program is that an individual can best modify his behavior when he knows what he is to do, when he is relaxed and free from stress, and when he finds the changes he is asked to make to be personally desirable. It is hoped that such a process might combat the disenchantment with classroom activity which is often a cause of failure. Graphs and references are included.

249. Wurster, Stanley R.; Mathis, F. Austin, Jr. Happiness Is: Reading! Report of the Reading Resource Center. Glendale, Ariz.: Glendale Elementary School District No. 40, 1973, 50p. [ED 082 [illegible]0]

The purpose of this Title I project was to improve the reading achievement of educationally disadvantaged students. Improvement was also anticipated in the areas of self-reliance, personal worth, attitudes toward reading, and attendance. The subjects, 144 second, third, and fourth graders, were selected on the basis of their scores on a district-wide achievement test, their teacher's recommendation, and an I.Q. at or above 85. Fifty second and third graders were selected to serve as a control group. The Slosson Oral Reading Test (SORT) and Stanford Achievement Test (SAT) were administered as pre- and post-test measures. The SORT was only administered to the experimental group. Reading Resource Centers were set up as separate but cooperating units with one teacher and one educational assistant in each unit. Children attended the center one hour each day in groups of ten or less. Educational Developmental Laboratories' materials, "Listen, Look, and Learn," were used as the core for the program. The results warranted the following conclusions: a majority of the students had a 9 month or more gain in word meaning skills, self-reliance improved for a large percentage of the students, the attitudes of the students toward reading improved, and student attendance improved.

Sex Differences

250. Felsenthal, Helen. Sex Differences in Teacher-Pupil Interaction in First Grade Reading Instruction. Paper presented at the Annual Meeting of the American Educational Research Association, Minneapolis, March 2-6, 1970, 15p. [ED 039 106]

The patterns of teacher-pupil interaction during first-grade reading instruction as a function of pupil sex were investigated. A total

of 439 boys and girls and 71 teachers comprised the sample. The study involved three major phases: measurement of teacher attitudes, classroom observation of teacher-pupil interaction, and measurement of pupils' reading achievement. An educational attitude scale, a classroom observation record, and tests of reading readiness and achievement were used. The results were analyzed by using an analysis of variance and covariance. All of the teachers in this study were female, and results showed that they behaved differently in their interactions with boys as compared to girls. The interaction was related to teacher attitudes also. The study showed that sex differences in learning do exist and should be considered in educational planning. References are included.

251. Gunderson, Doris V. Sex Roles in Reading. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, April 1972, 10p. [ED 064 671]

Sex roles in two disparate areas, reading and literature, are treated separately in this paper. Sex-related factors listed which may contribute to the high incidence of boys experiencing reading difficulty were: (1) predominance of female teachers in the primary grades, (2) boys' lack of interest in basal readers, (3) adults considering reading a female activity, (4) effect of different socialization processes of females and males upon school success, and (5) teacher attitude toward males during reading instruction. Sex discrimination does appear to predominate in English and American literature and literary criticism. College texts in English literature are male oriented and few women writers exist in English literature before the nineteenth century. Thus, it appears that materials prepared for the instruction of children are heavily slanted in favor of males and male pursuits and that "literature is traditionally and obviously male centered." On the basis of current information it appears that no single factor, including sex discrimination, is responsible for boys' reading difficulties.

252. Klein, Howard A. Interest and Comprehension in Sex-Typed Materials. Paper presented at the Annual Meeting of the International Reading Association, Kansas City, April 30-May 3, 1969, 6p. [ED 030 551]

The effects of the main character's sex and occupation on fifth graders' interest in and comprehension of a story were investigated. Two fifth-grade-level stories of about 370 words were written about a pilot (interesting for boys), a ballet dancer (interesting for girls), and a social worker (equal appeal). Each story was written in two versions: one with a female main character and the other with a male main character. The readers' responses to each story were measured by a semantic differential scale and a six-point like-dislike statement scale. Three hundred and twelve boys and girls from 13 randomly selected Saskatoon, Saskatchewan, public school fifth-grade classrooms were chosen as subjects. The study concluded that boys and girls do react in distinct ways to the same content and that research can predict which content will have greater or lesser appeal for boys and girls. Additional conclusions

and comments are presented. References are included.

253. Kolczynski, Richard. Boys' Right to Read: Sexuality Factors in Learning to Read. Paper presented at the Annual Meeting of the International Reading Association, Denver, May 1-4, 1973, 14p. [ED 078 389]

Several studies that have examined the effect of sex differences on learning to read are discussed. Various findings have suggested that (1) sex differences in anxiety manifest themselves early in children's academic careers; (2) girls tend to perform better on readiness measures; (3) boys score significantly higher on a criterion test administered after programed instruction while girls score higher after direct teacher instruction; (4) no significant differences have been found between sexes as a result of sex grouping; (5) American girls excell over American boys in reading achievement, while the reverse is true among German students; and (6) girls develop language competence before boys. Educational implications are discussed, concluding that teachers should identify those factors that possibly interfere with the boys' "right to read" and should plan and implement programs that produce quality readers, giving more attention to each and every individual.

254. Schell, Leo M. An Investigation of Sex Bias in Teacher Assessment of Reading Achievement of Elementary School Pupils. Final Report. Manhattan, Kan.: Kansas State University School of Education, 1969, 59p. [ED 039 118]

This study investigated whether a random sample of 50 elementary teachers, 10 in each of grades 2 through 6, in Topeka, Kansas, discriminated against elementary school boys--in favor of girls--in rating of pupil reading achievement and assignment to reading groups. Teachers rated each pupil in their class on level of general reading achievement and classroom behavior. They also reported which reading group pupils were assigned to. Unknown to teachers, standardized test scores of reading comprehension from the regular schoolwide testing program were obtained from the central administrative office. Data were analyzed by comparative frequency distributions, intercorrelations, and multiple regression analysis. No sex bias was found either in assigning pupils to reading groups or in judging pupil reading achievement. A slight behavior bias was found on both reading group placement and teacher rating of pupil reading achievement. There was no convincing evidence of systematic, large-scale teacher bias on either criterion, overall or at any grade level, contrary to hypotheses. A bibliography is included.

255. Turnure, James E.; Samuels, S. Jay. Attention and Reading Achievement in First Grade Boys and Girls. Research Report No. 43. Minneapolis: University of Minnesota, Research Development and Demonstration Center in Education of Handicapped Children, 1972, 17p. [ED 074 447]

Eighty-eight first graders (53 boys and 35 girls) were observed to determine whether attentiveness (visual orienting behavior, or direction of gaze) was related to reading achievement prior to the effects of long-term success-failure school experiences and whether the expected superior reading achievement of girls was related to observed attentiveness in the classroom. An observer was assigned to each of the four classrooms to record the attentional behaviors of the pupils during the reading hour; 15 visits were made over the course of a month. Positive attentiveness included task relevant behaviors, whereas non-task orienting behavior was scored negatively. Results indicated that girls were significantly more attentive than boys and achieved higher word recognition scores. Word recognition was found to be significantly related to attentiveness for the group as a whole, with reading readiness controlled in a covariance analysis. It was concluded that overt, task relevant, orienting behavior was related to scholastic achievement and was acquired in beginning reading, before a long history of academic success-failure had been established. This study was sponsored by the DHEW Bureau of Education for the Handicapped.

Theory

256. Abstracts for the 11th Annual Convention of NERA. Albany, N.Y.: Northeast Educational Research Association, 1971, 86p. [ED 052 229. HC not available from EDRS. Available from Northeast Educational Research Association, New York State Education Department, Division of Evaluation, Albany, N.Y. 12224 ($3.00)]

The Northeast Educational Research Association (NERA) hosted ten sessions in November 1970. Papers presented at session 1 dealt with special education (mentally retarded children, intelligence tests, and figure orientation). Session 2 highlighted reading (Initial Teaching Alphabet, Frostig subprograms on perception and the disadvantaged in regard to reading) and session 3 focused on higher education. Session 4 was devoted to teacher perceptions (urban teachers, pre-service education, and student-centered teaching); session 5 solely to the study of the disadvantaged. Design and measurement topics included in session 6 ranged from item analysis of criterion-referenced tests and stimulus standardization for individualized learning systems, to the scoring of creativity tests by computer simulation. Problems in measurement were dealt with in session 9. Self-concept (review of research to relationship between creativity, social and academic acceptance) was treated in session 7, and administration models, policies, and influences in session 8. The final session focused on facets of guidance and counseling papers. The NERA conference also included a number of symposia covering a wide range of topics.

257. Bruner, Jerome. Learning about Learning, A Conference Report. The results of the Working Conference on Research on Children's Learning, Cambridge, Mass., June 14-28, 1963, 280p. [ED 015 492. HC not

available from EDRS. Available from the Superintendent of Documents, U.S. Government Printing Office (Catalog No. FS-5.212-12019, $1.00)]

To explore the nature of the learning process, three important problem areas were studied. Studies in the first area, attitudinal and affective skills, are concerned with inducing a child to learn and sustaining his attention. Studies in the second area, cognitive skills, sought to discover whether general ideas and skills can be learned in such a way in one subject that they will materially affect progress in another. Studies in the third area, stimulus control, are concerned with presenting learning materials in an optional sequence. Working papers and notes on the plenary sessions are appended.

258. Fay, Leo, comp. Reading Research: Methodology, Summaries, and Application. An Annotated Bibliography. Bloomington: Indiana University, 1971, 76p. [ED 049 023. HC not available from EDRS. Available from IRA ($1.50 nonmember, $1.00 member)]

Reading research studies from 1950 to 1969 were selected for inclusion in this bibliography from ERIC/CRIER's data base, which contains materials from published journal literature, dissertations, USOE-sponsored research, and International Reading Association conference proceedings. Since this bibliography is designed to serve the needs of the researcher, the student, and the practitioner, it is appropriately divided into three categories: methodology, summaries, and applications. The methodology section includes studies of the reading research community as well as of research techniques and designs. The latter items relate both to general approaches and to designs and techniques for specific reading research problems. The summary section includes periodic reviews of reading research. These include the Gray Annual Summary, summaries of doctoral research in reading, and summaries of investigations in one aspect of reading, such as secondary reading and college reading. The application section consists of items that interpret and apply research findings to particular problems of reading instruction. An author's guide, ordering information through the ERIC Document Reproduction Service and University Microfilms, and listings of ERIC/CRIER and IRA publications are appended.

259. Fry, Edward. A Classification of Factors Affecting Reading Performance. Paper presented at the National Reading Conference, St. Petersburg, December 3-5, 1970, 20p. [ED 046 662. HC not available from EDRS. Available in Twentieth Yearbook of the National Reading Conference]

A classification of factors that go into the complex process of reading or learning to read is presented. These factors are listed in outline format under the following sections: (1) sensory input, (2) mediating activity, (3) response, (4) reward and/or motivation, (5) knowledge of results, (6) reward variations, (7) rate of reading, (8) practice and review, (9) readability, (10) reading content, (11) subject matter organization, (12) supplementary presentations,

(13) classroom environment, (14) the lesson, (15) individual differences, (16) environmental influence and previous learning, (17) measurement of reading ability, and (18) training efficiency. Each factor is further subclassified and discussed.

260. Goodacre, Elizabeth J. Reading Research 1968-1970 and Reading Research 1971. Reading, England: University of Reading, Centre for the Teaching of Reading, 1972, 27p. [ED 079 690]

These two booklets cover research in reading from 1968 through 1971. The first half of the first booklet covers the years 1968-1970 and includes summaries of general trends in reading, surveys, and research on specific dyslexia, the Initial Teaching Alphabet and the beginning stages of learning to read, and linguistics and reading. The second half, which uses both British and American sources, contains a list of 54 articles and an annotated list of 35 books published from 1968-1970 concentrating on areas of research in which considerable interest was shown by teachers and researchers--general surveys, the Initial Teaching Alphabet, other studies of early learning, linguistics and reading, specific dyslexia, and deprivation and reading. The second booklet discusses research articles which deal with dyslexia, remedial provision, remedial treatment, letter-name knowledge, preschoolers, materials, the Initial Teaching Alphabet, and phonic "rules" and approaches to teaching. Also included are annotations for thirteen books published in 1971 exploring such areas as reading readiness, reading materials, innovations in teaching, the reading process, reading and linguistics, and slow learners in the secondary schools.

261. Goodacre, Elizabeth J. Reading Research 1972. Reading, England: University of Reading, Centre for the Teaching of Reading, 1972, 19p. [ED 076 969]

British research developments in 1972 in the areas of reading standards, dyslexia, remedial provision, length of schooling, language and reading, and materials and medium are summarized in this booklet. Also included are annotated listings of articles and books covering such subjects as teaching methods, cultural deprivation, personality and scholastic achievement, book selection, spelling, language development, reading on the secondary and college levels, remedial reading, adult reading, dyslexia, and phonics.

262. Goodman, Kenneth S.; Niles, Olive S. Reading: Process and Program. Urbana, Ill.: National Council of Teachers of English, Commission on the English Curriculum, 1970, 80p. [ED 072 431. Also available from NCTE (Stock No. 50955, $2.50 nonmember, $2.25 member)]

Broad and major concerns dealing with reading are set forth in this monograph to provoke discussion and examination by both researchers and practitioners. In part 1, Kenneth S. Goodman presents a psycholinguistic view of language and reading (within a transformational-generative framework) as essentially a set of processes of recoding, decoding, and encoding leading to

comprehension--the real objective of reading. A model of the reading process is included, plus four diagrams showing processes in spoken language, early reading, proficient reading, and oral reading. In part 2, Olive S. Niles focuses on the framework for a secondary school reading program: appropriate climates for reading, development of curriculum, recent trends, evaluation of organizational structure, teacher selection and preparation, and materials--library materials, content area materials, and reading instruction skills materials.

263. Gunderson, Doris V., comp. Language & Reading: An Interdisciplinary Approach. Washington, D.C.: Center for Applied Linguistics, 1970, 278p. [ED 037 722. Document not available from EDRS. Available from Publications Section, Center for Applied Linguistics]

This compilation consists of a series of articles on selected aspects of reading problems. In her preface, the compiler insists upon the educational value of examining several perspectives on the same problem; thus, this book contains discussion by linguists, anthropologists, sociologists, psychologists, economists, and specialists in certain fields of medicine. There are three main sections: (1) Reading and Language, (2) Reading Research, and (3) Reading Problems. The first section contains papers concerned with language and theories of reading and includes some discussion of beginning reading. Papers in section two deal with the direction in which reading research should go, a conceptual analysis of reading, and a research study on perceptual training. The third section includes several articles which discuss factors contributing to reading disability, a discussion of the confusing use of the term "dyslexia," and a paper on reading disability in Japan. The final paper is a current look at the state of reading instruction.

264. Holloway, Ruth Love. The Worldwide Right to Read. Paper presented at the Fourth World Congress on Reading, Buenos Aires, Argentina, August 1972, 23p. [ED 090 489]

This address by the director of the Right to Read program presents a brief history of the effort, a discussion of the major goals, and a description of the means being used to reach these goals. The Right to Read program is an effort to insure that by 1980 no student will leave our schools without the skills of reading and writing. It is founded on four principles: most children are educable; people, especially teachers and other educational personnel, can change; there are multiple causes of reading problems and, hence, there must be multiple approaches and multiple solutions; and enough knowledge about reading is available to solve the reading problems in our country. The delivery system is then described. The first part is providing good, sound information and making it readily accessible and usable. The second part is continuing technical assistance from the Right to Read staff, who give needed help in planning, implementation, and staff development. But the real impact comes from the multiplier effect: the successes of the demonstration schools inspire neighboring schools to develop

and implement their own programs, and so on. And finally, part of the Right to Read program's success must be credited to the involvement of the private sector.

265. Horton, David L., Jenkins, James J., eds. The Perception of Language. Proceedings of a Symposium of the Learning Research and Development Center, University of Pittsburgh, January 11-12, 1968, 282p. [ED 057 029. Document not available from EDRS. Available from Charles E. Merrill Publishing Company]

This report describes the proceedings of a conference that brought together 20 psychologists and psycholinguists to present their particular research interests and to attempt to find communalities of thinking through discussion of "The Perception of Language." One position held that thinking is merely subvocal speech, and that at the base of all languages is a simple set of recursive rules that permit speakers to understand and to generate an infinite set of sentences, most of which they have never heard nor said before. One of the newest, most dramatic, and enigmatic phenomena to challenge this traditional viewpoint is the work being done on micromuscular movement and speech synchronism. Armed with a motion camera, researchers have demonstrated that speech and the gestures of both the speakers and the listener are highly coordinated and synchronous. This document is a sampling of the evidence that indicates that an explanation of language demands a new, more powerful theory to explain the many facts that have been accumulated and are continuing to accumulate.

266. Kling, Martin. General Open Systems Theory and the Substrata-Factor Theory of Reading. Newark, Del.: International Reading Association, 1966, 45p. [ED 074 477]

This study was designed to extend the generality of the Substrata-Factor Theory by two methods of investigation: (1) theoretically, to establish the validity of the hypothesis that an isomorphic relationship exists between the Substrata-Factor Theory and the General Open Systems Theory, and (2) experimentally, to discover through a series of substrata analyses the patterns of interaction by which a set of subject matter areas mutually and reciprocally support each other. Eight postulates, fundamental to both the General Open Systems Theory and the Substrata-Factor Theory, were identified. It was concluded (1) that there was an isomorphic relationship between all postulates in the two theories; (2) that subject matter areas could be conceived of as suprasystems girded by diverse, yet fundamentally related, subsystems; (3) that working system hierarchies were found for each content area manifesting quantitative and qualitative differences in organization of substrata sequences, amount of variance called for, and redundancy of particular variables; (4) that reciprocal interaction could be inferred from and X on Y and Y on X regression analysis; and (5) that the proration sequential technique might provide a basis for determining the extent of a particular subsystem's impact on the suprasystem. Suggestions for further research and a bibliography

are included. (This document previously announced as ED 024 546.)

267. Kling, Martin. Quest for Synthesis. Paper presented at the Annual Meeting of the American Educational Research Association, New York, February 4-7, 1971, 19p. [ED 050 906]

In this progress report of an interdisciplinary consortium effort, Project 2, Literature Search in Reading, funded by USOE's Targeted Research and Development Program in Reading, the author summarizes the project objectives, milestones, and strategies used to accomplish these milestones. The objectives as reported are (1) to identify and evaluate the significant literature in the reading process, learning to read, and language development; (2) to build models of these processes; (3) to describe and synthesize these models; and (4) to describe hypotheses and tests central to developing new research studies needed to refine and extend these models. The listed milestones are (1) a working bibliography of 8.200 references; (2) the development and use of a reference evaluation form (REF) to evaluate the literature; (3) computerization of REF's by interrogation criteria; and (4) working papers identifying models and the state of knowledge. A description of the project personnel is also given. References and tables are included.

268. Kling, Martin. Research in Secondary Reading. Reprint of Chapter 10 of Reading in the Secondary School, 1968 Yearbook of the New Jersey Secondary School Teachers Association, 11p. [ED 024 535]

Summers' Annotated Bibliographies of Secondary Reading (1963, 1964), "Review of Educational Research," "Journal of Reading," ERIC/CRIER, and "Research in Education" are listed as resources for all phases of reading. A shifting of trends in the nature and scope of research topics in secondary reading is noted, with diagnosis and treatment, readability, and reading in high school indicated as the most frequently researched areas from 1940 to 1960. The most significant theoretical-empirical study in reading at the secondary level is judged to be "Speed and Power of Reading in High School" by Hommes and Singer, a study based on the substrata-factor theory of reading. This study reveals that more is known about power of reading than about speed of reading and that different criterion groups, i.e., boys and girls, mobilize different sets of subabilities within their separate working systems in order to read for speed. This substrata analysis provides strategies for curriculum development and emphasizes what variables might be taught for various criterion groups. Bibliotherapy, critical reading, and flexibility are listed, among others, as areas of needed research. Charts, tables, and a list of references are included.

269. Laffey, James L. Recent Reviews and Bibliographic Resources for Reading Research, Supplement 1. ERIC/CRIER Reading Review Series, Bibliography 26. Bloomington: ERIC Clearinghouse on Reading and Indiana University, April 1970, 71p. [ED 042 592]

This collection of general sources of information of reading published during the years of 1967, 1968, and 1969 updates a previous bibliography of the same name. The most recent three years of research summaries in the ERIC/CRIER basic reference collection were reviewed and the most useful documents identified. The entries are arranged alphabetically in two parts: 1967-68 documents are in part 1 and 1969 documents are in part 2. A descriptive abstract is included for each entry. Also, every item included in the bibliography has appeared in the published literature and should be available in libraries with good collections in psychology and education.

270. Lynch, Mervin D.; and others. The Building Block Construct as a Possible Model for Decoding Processes. Paper presented at the National Reading Conference, St. Petersburg, December 3-5, 1970, 11p. [ED 049 002]

The building block theory of language structure, an information processing approach, is applied to the development of a model of the reading process. Specifically, the model is concerned with the amount of time an individual will spend reading and the amount of content he will decode which is determined by a series of cognitive processes involving some aspects of sampling, matching, switching, analysis of subjective probabilities, and analysis of syntax. According to the model, a person intending to read a communication message begins by evaluating the message on the basis of likelihood that it might be comprehensible, sensational, opinionated, and so on, and uses that basis to make several hypotheses about the quality of the message. He then gathers information from the syntax of the message with which to evaluate his hypotheses. Once he has decided on the merits of a hypotheses, he continues reading until he has enough information to begin the process again. Several possible applications of this model for reading research are given. One suggests that since people often read only beginning and final paragraphs, the repositioning of important data might require shifting of reading emphasis. Another application might be in training individuals to look for higher levels of abstraction when they read. Research on the model is urged. References are included.

271. Ruddell, Robert B.; Williams, Arthur C. A Research Investigation of a Literary Teaching Model, Project DELTA (Developing Excellence in Literacy Teaching Abilities). Berkeley: University of California, School of Education, 1972, 456p. [ED 085 652]

The basic purpose of Project DELTA was to design, implement, and evaluate an inservice professional development model to enhance literacy teaching abilities, thereby effecting substantial impact on children's reading-language achievement. Five instructional strands were developed: (1) oral and written expression, (2) literature and self-concept, (3) comprehension and critical thinking, (4) decoding and (5) parent participation. A preservice teacher training component was also developed at the on-site location. Formative data conclusions offer support that teacher behavioral

change did indeed occur as reflected in achievement growth by children in kindergarten and grades one, two, and three. Many of these reading-language gains were not only significant statistically but significant from a practical, applied standpoint as well. In addition, summative data conclusions provided insight into the process and content of model development. Complete descriptive and statistical data are included in the final report.

272. Rudorf, F. High; Jones, Virginia W., eds. Initial Reading: Points of View. Vol. 5, May 1968, 110p. [ED 085 652. Also available from Nebraska Curriculum Development Center, Andrews Hall, University of Nebraska, Lincoln, Neb. 68508 ($2.00)]

In this document, points of view are presented by a group of educators and academicians whose common purpose was to explore the area of beginning reading. Articles deal with (1) definitions of reading and problems with the use of associated terminology, (2) various theoretical considerations of the processes of learning which apply to beginning reading, (3) linguistic contributions to reading instructional programs, (4) using the graphoneme (closed syllable) concept in teaching independent decoding of reading vocabulary, (5) current research and opinion on the nature and utility of the syllable, (6) a re-examination of the Initial Teaching Alphabet (i.t.a.) system, (7) reading comprehension and the development of thinking skills, (8) mechanical teaching devices as the neglected dimension in reading instruction, (9) the weaknesses and strengths of the individualized reading approach, (10) writing language experience stories in "verse form," and (11) recommendations for training teachers of reading. Contributors are E. High Rudorf, Virginia W. Jones, Patrick Groff, David Davis, John Ebbs, and Evelyn Wiggins. An appendix about the graphoneme concept and bibliographies on related research projects are included. This project was sponsored by the Tri-University Project in Elementary Education of USOE.

273. Sakamoto, Takahiko. Reading of Preschool Children in Japan. Paper presented at the Annual Meeting of the International Reading Association, New Orleans, May 1-4, 1974, 9p. [ED 090 490]

Japanese preschool children begin to read at home at age four without any formal instruction or reading readiness programs, and the development of their reading abilities in the preschool stage is mainly up to the parents. A new reading program will be needed for the sake of children with parents who are not sufficiently concerned about reading. Although the reading ability of preschool children today has become higher than ever before, we should not overlook the fact that there are still some children who do not read any letters upon entering elementary school. Since ability grouping or the double-promotion system is not accepted in Japanese education, an elementary school teacher necessarily encounters larger individual differences than ever before in his classroom, which in Japan usually contains an extraordinarily large number of pupils. Coping

with the big differences is the main problem in Japanese reading instruction on which further and urgent strategies are essential.

274. Singer, Harry. Theories, Models, and Strategies for Learning to Read. Paper presented at the National Reading Conference, St. Petersburg, December 3-5, 1970, 33p. [ED 049 006. HC not available from EDRS. Available in the Twentieth Yearbook of the National Reading Conference]

Descriptions of models of the initial acquisition stages of reading development and of methods for teaching beginning reading are provided in this conference report which not only describes individual models and strategies, but also draws together and summarizes current thinking in this area. The models range from the behavioristic works of Thorndike and Skinner to the field of cognitive learning models of Singer and Gibson. Included in the latter are the linguistic theories ranging in outlook from attention to simple decoding to concentration on meaning of clauses and sentences. It is argued that a hierarchical structure of tasks does exist in reading, that it is possible to provide instruction at various levels of the structure, and that it is further possible to determine hierarchies from analysis of factors involved in reading behaviors. It was also argued that since different instructional procedures seem to produce their best results in one or two of several skill areas, perhaps some attempts at matching methods to individual readers would provide the most successful reading instruction for all. A bibliography is included.

275. Singer, Harry; Ruddell, Robert B., eds. Theoretical Models and Processes of Reading. Newark, Del.: International Reading Association, 1970, 347p. [ED 072 401. Also available from IRA ($6.50 nonmember, $3.75 member)]

The first section of this two-part collection of articles contains six papers and their discussions read at a symposium on theoretical models and processes of reading. The papers cover the linguistic, perceptual, and cognitive components involved in reading. The models attempt to integrate the variables that influence the perception, recognition, comprehension, and utilization of printed stimuli. Affective factors influencing these variables in both acquisition and performance are included. The final paper in the symposium presents a brief review of the literature on theoretical models in reading and draws implications for teaching and research from several models selected to represent the reading development continuum from kindergarten through college. The second part of this volume represents published papers on theories and processes of reading. Included among these are: (1) "The Substrata-Factor Theory of Reading: Some Experimental Evidence"; (2) "A Developmental Model of Speed of Reading in Grades Three through Six"; (3) "A Theory of Language, Speech, and Writing"; (4) "Reading: A Psycholinguistic Guessing Game"; (5) "The Reading Competency Model"; (6) "The Nature of the Reading Process"; and (7) "Learning to Read."

276. Smith, Blanche Hope. What Research in Reading Education Has Made No Difference to the Classroom Teacher? Why? Paper presented at the Annual Meeting of the International Reading Association, New Orleans, May 1-4, 1974, 15p. [ED 089 254]

Teachers may find out about research studies through professional conferences, conventions and meetings, inservice teacher education courses, professional literature, and conferences with faculty members of colleges and universities. Translators of research may present the results of studies in programs for the classroom teacher. Perhaps the greatest need today is for the translator to produce viable programs of instruction for the classroom teacher on such problems as the link between the structure of language and the structures of listening, speaking, reading, and writing a total language program. This is needed today if teachers are to implement the findings of significant research studies to effect change in instructional strategies. These reports and programs must be made available to the classroom teacher in a simple uncluttered manner, without an overemphasis on statistics. Only then will the classroom teacher be in a position to add or delete practices of instruction for maximum pupil growth in reading and all other areas of language.

277. Smith, Nila Banton. Reading Research: Notable Findings and Urgent Needs. Paper presented at the Annual Meeting of the National Council of Teachers of English, Las Vegas, November 25-27, 1971, 21p. [ED 085 676]

This paper discusses some of the findings and needs of reading research. The areas of research study mentioned include word boundaries, letter names, preschool reading, teacher questioning, critical reading, and Negro dialects. Researchers cited include Dolores Durkin, Frank Guszak, Jay Samuels, Guy Bond, A. Sterl Artley, Edward Fry, and Robert Dykstra. The needs in reading research, as they see them, are to improve the quality of reading research, to increase the instruction in research in many universities, to cooperate with researchers in other disciplines, to increase the amount of research on methods of reading instruction, to improve the research in evaluating current and new approaches to reading instruction, to increase the research in the area of reading comprehension, to initiate further research in teaching reading to Spanish-speaking children, and to increase the research conducted with average and gifted students.

278. Staiger, Ralph C.; Andresen, Oliver, eds. Reading: A Human Right and a Human Problem. Newark, Del.: International Reading Association, 1969, 187p. [ED 045 306. Document not available from EDRS. Available from IRA]

A selection of papers presented at the second World Congress on Reading held in Copenhagen in August 1968 reflects the views of educators from 25 countries on facets of reading instruction. Central to the Congress was its stress on education as a human

right. The raising of literacy goals and the roles played by various agencies in accomplishing this are themes which appear throughout the speeches. Topics discussed in papers in the collection include beginning reading, reading comprehension, preparation of teaching materials, descriptions of programs, teacher education, and reading problems.

279. Strickland, Ruth G. Trends and Emphases in Elementary English. In The Range of English: NCTE 1968 Distinguished Lectures. Urbana, Ill.: National Council of Teachers of English, 1968, 22p. [ED 026 373]

Concepts advanced by grammarians, linguistic historians, dialectologists, psycholinguists, lexicographers, semanticists, and phonologists, together with new approaches to reading, spelling, and literature, can help the teacher make the English program more stimulating for children. For instance, discoveries made by psycholinguists have attested to the preschool child's grasp of principles of phonology and syntax and his habits of theory construction and validation in matters of sentence creation. Thus, a teacher in the primary grades, made aware that his students have learned their language well in the first four or five years of their lives, can attempt to interest children in understanding suprasegmentals of language, in expanding basic sentence patterns, in learning informal standard English, and in expressing their own ideas in writing.

280. Title II Reading Projects Reveal Wide Program Range. ESEA Title II and The Right to Read, Notable Reading Projects No. 10. 1972, 22p. [ED 080 980]

The reading programs described in the first ten bulletins of reports on ESEA Title II are indexed in this bulletin by subject and by state. The projects have generally been directed toward regular elementary and secondary school programs; however, some have also been coordinated with reading instruction in special types of institutions, such as schools operated by correctional institutions and programs for emotionally disturbed children. The projects have also served such target groups as disadvantaged, gifted, and handicapped children. An analysis of the projects reveals they benefit a total of 398,466 public and private school pupils, with expenditures for reading and other instructional materials amounting to over three million dollars. In addition to the cumulative index, eighteen new projects are briefly described in this bulletin.

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030 095 (201)
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033 819 (199)
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042 590 (233)
045 323 (151)
074 480 (159)

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063 096 (156)

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033 820 (29)
039 379 (4)
042 183 (26)
049 907 (19)
054 393 (182)
059 008 (33)
059 844 (1)
067 640 (57)

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015 095 (31)
015 096 (30)
033 820 (29)
035 518 (14)
043 453 (181)
046 639 (6)
049 002 (270)
055 742 (145)
061 010 (35)
063 606 (23)
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072 419 (188)
074 484 (34)
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078 375 (15)
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041 704 (32)

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018 349 (134)
035 527 (83)
042 590 (233)
045 298 (247)
049 892 (161)
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029 759 (150)
040 817 (132)
063 012 (226)

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033 825 (200)
044 257 (173)
063 588 (170)
071 448 (50)
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010 595 (56)

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061 352 (197)

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030 109 (110)

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033 820 (29)
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070 044 (36)

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015 095 (31)
015 096 (30)
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030 779 (146)
046 666 (140)
074 480 (159)
055 742 (145)
063 598 (148)
072 403 (193)
073 435 (162)
078 375 (15)
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033 820 (29)
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061 017 (119)

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031 383 (65)

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072 431 (262)

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018 353 (101)
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078 376 (126)

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059 844 (1)

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029 717 (216)

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040 018 (221)

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033 825 (200)
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020 860 (94)
073 444 (107)
074 464 (108)

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079 713 (74)

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027 070 (203)

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090 490 (273)

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059 573 (167)

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055 336 (230)

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027 143 (240)

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029 759 (150)

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072 416 (127)

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052 229 (256)
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073 417 (164)
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060 010 (171)
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045 298 (247)

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055 394 (21)

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024 686 (228)
026 373 (279)
029 026 (206)
029 896 (174)
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068 897 (51)

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055 394 (21)
059 573 (167)
071 238 (70)

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042 183 (26)

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058 943 (219)

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050 906 (267)

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042 590 (233)
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062 088 (130)

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078 398 (196)

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019 197 (169)

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070 044 (36)

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047 921 (231)
057 404 (241)

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074 447 (255)
079 699 (214)

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036 402 (90)
065 853 (235)
070 070 (120)

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070 070 (120)

Grade 4
013 196 (85)
078 379 (158)

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074 485 (22)

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062 089 (7)

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015 115 (44)
027 154 (39)
050 915 (41)

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085 652 (271)

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090 495 (20)

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059 008 (33)

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039 106 (250)

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055 742 (145)

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037 722 (263)
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029 717 (216)

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059 839 (97)

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001 116 (55)

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042 588 (244)
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056 831 (38)

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030 095 (201)
040 177 (142)
048 246 (272)
078 420 (177)
058 242 (237)
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089 254 (276)

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028 430 (63)
033 819 (199)
037 722 (263)
039 250 (124)
041 694 (2)
049 886 (185)
050 915 (41)
053 863 (184)
054 393 (182)
055 751 (194)
057 029 (265)
059 196 (123)
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061 352 (197)
062 097 (198)
063 580 (195)
063 582 (202)
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046 653 (208)
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083 544 (118)

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073 424 (189)
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037 462 (11)

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058 242 (237)

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035 527 (82)
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053 864 (76)
056 828 (5)
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012 678 (77)
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046 639 (6)
078 381 (18)

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073 424 (189)

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002 970 (204)
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057 029 (265)

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063 582 (202)
071 060 (192)
076 953 (59)

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011 975 (128)
029 896 (174)

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047 907 (152)

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019 208 (175)
028 430 (63)
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045 306 (278)

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074 435 (239)

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041 694 (2)
062 088 (130)
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063 588 (170)
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010 050 (135)
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040 018 (221)
061 352 (197)
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071 448 (50)
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063 606 (23)
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035 527 (83)
035 534 (232)
038 257 (82)
041 694 (2)
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074 442 (73)
074 481 (47)
074 484 (34)
074 485 (22)
076 969 (261)
078 376 (126)
078 381 (18)
078 389 (253)
079 690 (260)
079 694 (79)
079 713 (74)
082 144 (104)
082 150 (249)
083 579 (131)
085 676 (277)
085 681 (54, 81)

Reading Skills
001 744 (91)
002 601 (187)
013 194 (86)
013 196 (85)
018 346 (98)
018 353 (101)
019 208 (175)
021 698 (190)
029 717 (216)
039 253 (178)
043 473 (155)
056 828 (5)
057 404 (241)
063 085 (222)
063 598 (148)
066 741 (62)
067 641 (58)
068 897 (51)

Reading Skills cont'd.
071 238 (70)
073 435 (162)
079 666 (157)
079 713 (74)
082 144 (104)
083 547 (243)
083 579 (131)
085 674 (72)
085 676 (277)
085 687 (234)
086 965 (68)
090 490 (273)
091 661 (225)

Reading Speed
035 527 (83)
038 257 (82)
046 624 (80)
062 087 (165)
062 090 (166)
074 481 (47)

Reading Tests
019 197 (169)
046 666 (140)

Recall (Psychological)
062 088 (130)
064 273 (129)
078 399 (12)
090 531 (3)

Receptive Language
055 751 (194)

Relationship
026 132 (49)
040 817 (132)

Remedial Instruction
045 298 (247)

Remedial Reading
061 014 (111)
074 435 (239)
082 150 (249)
090 497 (229)

Remedial Reading Programs
027 143 (240)

Research and Development Centers
049 866 (185)

Research Design
049 023 (258)

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042 183 (26)

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024 535 (268)

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029 896 (174)
049 023 (218)

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014 387 (172)

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024 535 (268)
042 592 (269)

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024 525 (46)

Retarded Readers
030 552 (64)

Retention Studies
074 484 (34)
074 485 (22)

Review (Reexamination)
019 208 (175)

Rural Urban Differences
030 106 (210)

Secondary Education
001 605 (180)
072 431 (262)

Secondary Grades
024 535 (268)
062 100 (153)
063 085 (222)

Secondary School Students
042 526 (209)

Self Concept
015 492 (257)
044 251 (245)
063 012 (226)
066 723 (246)

Self Esteem
066 723 (246)

Self Evaluation
063 085 (222)

Semantics
074 443 (116)
090 531 (3)

Sensory Experience
052 899 (60)
055 751 (194)

Sensory Integration
030 548 (43)
034 655 (61)
044 239 (40)

Sentence Structure
045 290 (125)
086 950 (114)

Sequential Learning
002 601 (187)

Sequential Reading Programs
011 502 (99)

Sex Differences
039 106 (250)
039 118 (254)
060 010 (171)
074 447 (255)
078 389 (253)

Silent Reading
015 115 (44)
050 915 (41)
052 912 (37)

Skill Analysis
071 238 (70)

Social Dialects
030 632 (211)

Social Disadvantagement
064 697 (42)

Social Discrimination
064 671 (251)

Social Influences
001 116 (55)

Socioeconomic Background
018 344 (52)

Socioeconomic Influences
064 697 (42)
076 953 (59)

Socioeconomic Status
031 383 (65)
060 010 (171)

Sociolinguistics
024 053 (212)
063 588 (170)

Speed Reading
046 624 (80)
074 481 (47)
085 681 (54, 81)

Speech Habits
002 970 (204)

Speech Skills
063 012 (226)

Spelling
010 843 (12)
012 220 (112)
067 666 (115)
076 969 (261)

Standard Spoken Usage
060 700 (213)
078 398 (196)

Structural Analysis
001 744 (91)
011 502 (99)
028 039 (96)

Structural Grammar
059 196 (123)
062 088 (130)

Student Attitudes
012 676 (236)
045 671 (227)

Student Behavior
046 663 (248)

Student Interests
079 709 (224)

Student Needs
079 709 (224)

Student Teacher Relationship
010 984 (160)
039 106 (250)
049 907 (19)

Study Habits
045 298 (247)

Supplementary Reading Materials
078 379 (158)

Symbolic Learning
059 008 (33)

Symposia
052 229 (256)

Syntax
011 975 (128)
021 698 (190)
039 101 (191)
039 250 (124)
064 273 (129)

Systems Analysis
074 477 (266)

Systems Approach
074 477 (266)

Systems Concepts
074 477 (266)

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018 349 (134)

Tactual Visual Tests
010 595 (56)

Task Analysis
035 518 (14)

Task Performance
010 595 (56)

Taxonomy
021 698 (190)
046 662 (259)
055 394 (21)

Teacher Attitudes
039 106 (250)
072 416 (127)

Teacher Characteristics
012 707 (220)

Teacher Developed Materials
058 242 (237)

Teacher Education
048 246 (272)

Teacher Guidance
038 262 (78)

Teacher Influence
012 707 (220)

Teacher Response
039 118 (254)

Teacher Role
010 984 (160)
063 595 (205)
090 495 (20)

Teaching Guides
001 609 (113)
011 502 (99)
013 194 (86)
013 196 (85)
059 573 (167)

Teaching Methods
001 605 (180)
017 418 (109)
024 686 (228)
027 070 (203)
035 072 (238)
044 252 (53)
049 006 (274)
086 950 (114)

Teaching Models
060 700 (213)
085 652 (271)

Teaching Procedures
011 819 (141)

Teaching Techniques
001 609 (113)
013 711 (93)
018 346 (98)
078 420 (177)
058 242 (237)
078 391 (13)
086 945 (137)
086 965 (68)
090 497 (229)
091 661 (225)

Teenagers
079 709 (224)

Telegraphic Materials
062 090 (166)

TENL
-24 053 (121)

Test Construction
033 751 (48)

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045 666 (140)

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059 196 (123)

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078 420 (177)

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059 196 (123)
090 495 (20)

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039 250 (124)

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041 703 (27)
041 704 (32)

Theories
046 639 (6)
049 002 (270)
049 006 (274)

Thought Processes
022 757 (28)
037 462 (11)
056 828 (5)
063 598 (148)

Transformations (Language)
039 101 (191)

Tutorial Programs
063 085 (222)

Underachievers
042 526 (209)

Verbal Communication
011 819 (141)
058 771 (154)
079 691 (143)

Verbal Development
063 580 (195)

Verbal Learning
049 892 (161)

Verbal Stimuli
064 273 (129)

Vision
073 437 (75)

Visual Discrimination
014 385 (95)
017 418 (109)
030 552 (64)
034 655 (61)
043 468 (102)
071 021 (103)
072 399 (106)

Visual Learning
024 540 (163)
044 252 (53)
074 435 (239)

Visual Literacy
017 448 (50)

Visual Perception
020 860 (94)
021 699 (136)
026 132 (49)
038 262 (78)
057 029 (265)
073 437 (75)

Visually Handicapped
012 678 (77)

Vocabulary Development
013 711 (93)
078 379 (158)

Vocabulary Skills
001 605 (180)
013 711 (93)

Volunteers
040 018 (221)

Vowels
019 203 (84)
036 402 (90)
049 911 (92)

Word Lists
041 694 (2)

Word Recognition
003 820 (117)
010 050 (135)
014 385 (95)
019 203 (84)
021 699 (136)
028 039 (96)
028 310 (88)
032 194 (100)
036 402 (90)
040 984 (89)
043 454 (87)
049 911 (92)
052 912 (37)
059 839 (97)
061 017 (119)
071 021 (103)
078 376 (126)